Baseline Report

MCC Indonesia Procurement Modernization Project

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List of Acronyms and Abbreviations

5S	Superordinate Goals/Shared Values; Structure; Systems; Skills; Staffing
ASEAN	Association of Southeast Asian Nations
BAPPENAS	*Badan Perencanaan dan Pembangunan Nasional* (National Development and Planning Agency)
BAH	Booz Allen Hamilton
BHMN	*Badan Hukum Milik Negara* (A State Owned Legal Entity)
BUMD	*Badan Usaha Milik Daerah* (A State Owned Enterprise owned by a subnational government entity such as a province, district or municipality)
BUMN	*Badan Usaha Milik Negara* (A State Owned Enterprise)
CoE	Center of Excellence
CTC	Client Technology Center
DAC	Development Assistance Committee
FA	Framework Agreements
FP4I	Forum for Women Procurement Specialists in Indonesia
GoI	Government of Indonesia
HRD	Human Resource Development
IDR	Indonesian Rupiah
IDT	Institutional development training
IRB	Institutional Review Board
ITS	Interrupted Time Series
KII	Key Informant Interview
KPPU	*Komisi Pengawas Persaingan Usaha* (Commission for the Supervision of Business Competition)
LKPP	*Lembaga Kebijakan Pengadaan Barang/Jasa Pemerintah* (National Public Procurement Agency)
LPSE	*Layanan Pengadaan Secara Elektronik* (Electronic Procurement Service)
M&E	Monitoring and Evaluation
MCA-I	Millennium Challenge Account – Indonesia
MCC	Millennium Challenge Corporation
MDE	Minimum Detectable Effect
MIS	Monitoring Information System
MOHA	Ministry of Home Affairs
OECD	Organisation for Economic Co-operation and Development
PM	Procurement Modernization
PMIS	Procurement Management Information System, being the procurement applications for transactional procurement (SiRUP, SPSE, e-catalog, e-purchasing)

PMM	Performance Measurement and Management
PPK	Commitment-Making Office (responsible for conduct of procurement of goods/services)
PPP	Public Private Partnership
PST	Procurement Skills Training
PSU	Procurement Service Unit
PwC	PricewaterhouseCoopers
RUP	*Rencana Umum Pengadaan* or the General Procurement Plan derived from each institution's annual budget.
SBD	Standard Bidding Document
SiRUP	The LKPP developed application for the publication of the Annual Procurement plan (RUP) to the GOI. It is used to publish the RUP of each institution to the vendor community and the Indonesian public.
SKPD	*Satuan Kerja Pemerintah Daerah* (Regional-Level Working Unit)
SOP	Standard Operating Procedure
SOW	Scope of Work
SPP	Sustainable Public Procurement
SPSE	*Sistem Pengadaan Secara Elektronik* (Electronic Procurement System)
VFM	Value for Money

Executive Summary

Indonesia spends more than 30 percent of its national budget, and around 60 percent of foreign development assistance, on the procurement of goods and services on behalf of government agencies. Yet, the Indonesian regulatory framework is marred by legal inconsistencies, poorly drafted laws and a lack of clear accountability mechanisms within the bureaucracy. In addition, the Indonesian judiciary has been unable until present to develop clear procurement review procedures. Add to this an incompetent and corrupt police force and a politicized anti-corruption commission and the results is an extremely dangerous environment for procurement officials to operate in. The country's corrupt and inefficient procurement system has contributed to the country's crumbling infrastructure, delayed government spending, and weak performance on a range of social indicators. Procurement reform has the potential to reduce resource inefficiency and save precious resources for other investments that can contribute to Indonesia's economic growth.

Comprehensive procurement reforms followed the demise of the New Order regime in 1998 as part of a broader effort to improve Indonesia's public financial management system (Wescott 2008: 18-37). Furthermore, beginning in 2003, the Government of Indonesia (GoI), together with donor agencies, has pursued various reform programs aimed at improving Indonesia's financial and procurement system. The GoI formalized its commitment to comprehensive public procurement reforms, when Presidential Decree No. 80/2003 on public procurement was adopted. The decree, which has since been amended seven times, superseded presidential decrees on the same matter dating from 2000 and 1994. It also took precedence over subnational procurement regulations. Meeting most criteria of international standards on public procurement practice, the decree has a broad mandate and covers goods, works, and services that use public funds irrespective of their value. It also established regulations for government procurers at all levels of the bureaucracy.

Presidential Decree No. 80/2003 also required all local bureaucrats involved in procurement to be procurement-certified by 2006. As a legacy of the New Order era, procurement professionals were limited in number and mostly employed in selective line ministries. There were also no distinct career paths or salary incentives for procurement professionals. Consequently, bureaucrats joined procurement committees on an ad hoc basis and returned to their former positions upon completion of the project. Institutional memory with regard to procurement procedures therefore remained fragmented and inefficient (World Bank 2007: 104).

Presidential Regulation (Peraturan Presiden) No. 54/2010 on Public Goods and Services Procurement adopted in 2010 replaced Presidential Decree No. 80/2003. The new regulation streamlined many of the stipulations outlined in the previous decree and specified mechanisms for procurement through electronic networking systems (e-procurement). Government units at both the national and subnational level were required to adopt an electronic procurement service (LSPE- Layanan Pengadaan Secara Elektronik) by 2012. In April 2012, the Ministry of Finance suggested comprehensive revisions to Presidential Regulation No. 54/2010 but it was unclear at the time of writing what these revisions would entail (Tampubolon 2012). In addition to the aforementioned presidential decrees, which focus exclusively on public procurement, several new laws were issued in recent years that also strengthen Indonesia's public

procurement system. For example, the State Finances Law No. 17/2003, the State Treasury Law No. 1/2004 and the State Audit Law No. 15/2004 all contain paragraphs on public procurement mechanisms.

While the procurement system in Indonesia has been formally strengthened through various institutional-organizational reform initiatives, such as Peraturan Presiden 54 (2010) public procurement remains problematic due to legal inconsistencies, weak state capacity, and insufficient enforcement of this regulatory framework. The requirement for Procurement Service Units (PSU) was not even a stated requirement until 2014.The decentralization of power has also exposed the varying capacities of local governments to implement these reform initiatives successfully. Consequently, the impact of institutional-organizational reforms on public procurement varies greatly across Indonesia.

The political-economic environment that facilitated collusion in procurement practices largely disintegrated after the end of the New Order era in 1998. On the one hand, this created opportunities for a more competitive, efficient, and transparent procurement system. On the other hand, these changes have created new incentives for procurement-related corruption. For instance, direct elections for politicians have created new financial pressures, which have often allowed private sector interests to sway public procurement processes in their favor. Finally, the devolution of political and fiscal powers has also introduced a high degree of variation into the public procurement landscape.

The Procurement Modernization (PM) Project aims to further the reforms in the procurement system to improve efficiency in the procurement of goods and services, cost savings, and economic growth. The PM Project is implementing multiple activity components to facilitate organizational and systems changes in procurement. The PM Project (a $65 million effort) is part of Millennium Challenge Corporation's (MCC's) Indonesia Compact. The objective of the project is to strengthen the implementation of the procurement function within the GoI by building capacity and facilitating institutionalization of PSUs so that they are resourced with systems, processes, and skilled procurement professionals. The logic of the project is that cost savings and efficiency improvements resulting from the project should lead to more efficient provision of goods and services to the economy, while also leading to budgetary savings that can be applied to other productive investments, potentially enhancing economic growth.

The project was divided into two phases. The first phase, which encompassed years one to three of the Compact (2013-2016), entailed developing and initiating training, mentoring, and other capacity-building support for 29 demonstration PSUs (Phase I PSUs). The second phase is expected to last for the balance of the Compact Term through 2018. In Phase 2, 15 new PSUs[1] (Phase 2 PSUs) have been selected to receive similar support. The revised approach brought the total number of PSUs supported by the PM Project to 44. The PM Project has been implemented, through MCA-Indonesia, by the National Public Procurement Agency (*Lembaga*

[1] According to the Millennium Challenge Account (MCA)-Indonesia Monitoring and Evaluation Plan (July 2016) the initial number was 16, yet, due to legal constraints LKPP, initially chosen as a Phase 2 PSU, could not be part of Phase 2.

Kebijakan Pengadaan Barang/Jasa Pemerintah, LKPP), and several implementing organizations.

Report Objective

MCC engaged Abt Associates to conduct an evaluation of the PM Project to determine whether and to what degree the project achieved its objectives, focusing on specific aspects of the PM project. Abt Associates created an earlier design report that described in detail the evaluation design, approach and methods covering the specific aspects The PM Project key stakeholders, including MCC, MCA-I, LKPP and the primary PM Project implementation contractors vetted the evaluation design. The design requires collecting data pre (baseline) and post (endline) PM Project implementation. The PSUs directly involved in the PM Project were recruited and engaged in two phases; therefore, the Phase 1 and Phase 2 PSUs each have their own baseline time points. For the purposes of this evaluation we consider Phase 1 as receiving direct exposure to the PM activities beginning in spring 2015 and Phase 2 in fall 2016. That is when each of the phases began to the training and mentoring events. All PM Project activities and sub-activities effects on the PSUs will need to be assessed separately for each of the Phase 1 and Phase 2 baselines, as there were changes to some of the activities between the two time points (e.g. development and maturation of Procurement Management Information System (PMIS).

The purpose of this report is to document the findings from the baseline data collection. It is important to note that the PM Project is a broad undertaking, affecting the national and local procurement systems on multiple levels. It is so broad that it is not practical to evaluate every possible area of interest. The focus and methods of Abt's evaluation are limited to those detained in the approved Evaluation Design Report. The findings described in this report focus solely on the baseline (i.e., prior to the implementation of PM Project activities and sub-activities) procurement system conditions relevant to the evaluation design's focus areas.

This report does not reflect any outcomes resulting from the PM Project; rather, it serves to document the baseline conditions and perceptions that will be used as a comparator to understand the outcomes observed at the end of the Compact in 2018. After the endline data are collected and analyzed, Abt will compare the results to the baseline findings in order to observe changes specific to the evaluation questions as detailed in the evaluation design. This will allow us to determine (to the extent possible) what changes occurred and whether those changes occurred along the dimensions outlined in the project logic as a result of the interventions, such as permanent PSU permanency, process improvement and standardization, and staff professionalization.

Procurement Modernization Project Activities

Table ES-1 below provides a list of the activities being implemented by the project (the Procurement Professionalization Activity and the Policy and Procedure Activity) and their links to the outputs and more salient intermediate outcomes according to the project logic.

Table ES-1. Activities Implemented by the Program, Outputs and Key Intermediate Outcomes

Activities	Sub-Activities	Detailed Activities	Outputs	Intermediate Outcomes
Procurement Professionalization Activity	Procurement Skills Training and Mentoring	• Procurement skills training (PST) • Ongoing procurement skills mentoring • Auditor training	• Curriculum and training materials for procurement skills developed and delivered • Procurement professionals (Jabfung), non-PSU staff, auditors (Irjen) certified in procurement skills training	• Greater skill/knowledge about proper procurement procedures among PSU staff and other actors in procurement eco-system
	Organizational Development Training and Mentoring	• Institutional development training (IDT) • Development support and monitoring organizational improvement roadmap • Performance measurement and management (PMM) training • Center of Excellence (CoE) training and mentoring • Maturity Model training and support • Technical assistance and mentoring on establishment of permanent PSUs	• Procurement professionals (Jabfung), non-PSU procurement staff trained in organizational skills • Procurement professionals mentored	• Pilots with performance frameworks established • Pro-active PSU established (with advisory services) • Pilots with draft Peraturan Daerah[2] completed • Permanent PSUs • Full-time staff appointed • Functional position established
	Development and Use of Framework Agreements	• Advisory services for Framework Agreements • Establishment of framework agreements • Transfer knowledge and skills in the establishment and management of Framework Agreements	• Framework agreements policy and procedures and standard bidding documents (SBDs) established and piloted	• Number of e-catalog transactions completed by all PSUs as a result of the local and national framework agreements

[2] Local regulations

Activities	Sub-Activities	Detailed Activities	Outputs	Intermediate Outcomes
	PMIS	• Advisory services and development of the PMIS • PMIS procurement applications • E-catalog software • General procurement planning/SiRUP • Electronic contract management • Data warehouse	• PMIS established and piloted • Procurement classification system applied	• Procurement data generated, captured, and available on each procurement process
Policy and Procedure Activity	Public Private Partnership (PPP)	• Market research for PPPs • Development of a practical toolkit with templates and model documents for procurement planning and project preparation • GAP analysis • Perka assistance • Piloting and standard bidding documents (SBD) establishment.	• PPP procurement policy and procedures and SBDs Developed	• PPP agreements awarded. • PPP pilot projects advanced promoted by usage of SBDs
	Sustainable Public Procurement (SPP)	• Establishment of SPP Steering Group • Development of terms of reference for legal and policy consultants • Assessment Phase for SPP (Discovery Phase) which consist of: o Status assessments o Identification of policy priorities o Review of the legislative framework research study o Market readiness analysis	• SPP discovery phase legal framework study report	• No intermediate outcomes – only final outcomes

The definitions provided in this section mainly come from the Millennium Challenge Account – Indonesia Monitoring and Evaluation Plan (July 2016). While the meaning of some of the terms used for the activities implemented are apparent (e.g., training and mentoring), others require definitions. Below we provide definitions for activities that may not be self-evident.

The PM project (PST Module 14) defines a "**Framework Agreement**" as an agreement between one or more customers and one or more suppliers, the purpose of which is to establish the terms governing contracts (Contracts) to be awarded during a given period, in particular with regard to the conditions, price and, where appropriate, the quantity envisaged.[3] Framework agreements are signed at two levels: (i) National (signed by LKPP and Supplier(s) to provide goods that are available nation-wide and can be applied to nation-wide purchases), and (ii) Local (signed by PSU/Budget Units and Supplier(s) to provide goods and services based on more specific local needs and can be applied on purchases only for certain budget units in certain administrative areas based on where the PSU/Budget Units are located).

Framework contracting is the process by which Framework Agreements for goods/services are established and used to purchase goods or services. It refers to a 10 step process implemented to standardize and therefore improve the efficiency and effectiveness of procuring goods and services. It involves the development of procurement procedures and standard bidding documents. In particular, it involves the following steps:

1. Conduct Spend Analysis
2. Determine Business Requirements
3. Perform Market Analysis
4. Develop Procurement Plan
5. Implement Sourcing Strategy
6. Negotiate
7. Finalize Contract
8. Transition to e-catalog
9. Implementation in e-catalog
10. Manage Contracts & Suppliers

The ***e-catalog*** is an electronic information purchasing system that contains a list of technical specifications and prices of certain goods and services from various providers for the Government, based on procured national and local framework agreements. The electronic-catalog system is intended to ease the administrative burden and transaction costs related to the purchasing of routine commercial products and services. The e-catalog platform

[3] For further reference please refer to Presidential Decree Number 54 Year 2010 Article 53 Act 3 and PST Module 14. Article 53 Act 3 which defines framework Agreement as a Unit Price Contract between the Government and suppliers of the Goods/Services which can be used by Ministry/Institution/Regional/Agency. Meanwhile the "Framework Contracting"

in conjunction with the standardized framework contracts seeks to improve the efficiency and effectiveness of procuring goods and/or services that are expected to be required on a recurring basis over a period of time.

E-procurement system[4] refers to an electronic procurement system through which governments can accept online bids and announce tenders. By housing records of tenders electronically, the e-procurement system is intended to increase transparency and efficiency of the procurement process.

Finally, the term **Sustainable Public Procurement** (also referred to as Sustainable Procurement Policy in MCA Indonesia's Monitoring and Evaluation Plan) describes sustainable initiatives conducted by government ministries or NGOs and other key stakeholders; and includes conducting analyses on the regional and domestic markets for sustainable products; and assess the ability of GoI to perform sustainable procurement, as well as monitor, measure and report on sustainable and/or environmental procurement progress and outcomes.

Evaluation Questions and Methodology

To a large extent, the evaluation design frames the PM Project approach as an organizational transformation initiative. For this reason, the evaluation design framework is based upon the "McKinsey 7-S Framework." Using a modified "5S model", we organized the evaluation questions and baseline results by the models five core components: Superordinate Goals/Shared Values[5]; Structure; Systems; Skills; Staffing; and Overall Evaluation Questions. Table ES-2 presents an overview of our evaluation design; linking key outcomes that will be explored in the pre-post comparison analyses to each evaluation question according to the project logic model.

Table ES-2. Evaluation Design Linking Research Questions and Key Outcomes, Data Source, and Data Collection Method

Evaluation Question	Key Outcomes	Data Source	Data Collection Method	Link to Findings Section
1. Superordinate Goals/Shared Values				
a. Are there any issues related to the political economy (or other aspects) of the procurement system and its actors not addressed by the project that may have impacted the project's ability to achieve its intended results?	Political economy issues or other barriers to success of the project	High-level stakeholders	Qualitative interviews	6.1.1

4 For further reference please refer to e-Procurement according to Presidential Decree Number 70 Year 2012 Article 37, Presidential Decree Number 54 Year 2010 Article 1 Act 37 and Presidential Decree Number 54 Year 2010 Article 1 Act 38.

5 "***Shared values***" refers to a shared vision or culture within a PSU that is supportive of the goals of the PM Project. We use respondents' perceptions of these as measures of shared values, discussed in more detail in Section 6.1.

Evaluation Question	Key Outcomes	Data Source	Data Collection Method	Link to Findings Section
b. Did the program result in a change in culture or shared values?	Existence of a written strategic vision	High-level stakeholders, PSU staff, SKPD staff	Qualitative interviews	6.1.2
2. Structure				
a. What types of organizational or operational changes are taking place at the PSU level?	Leadership and management, PSU permanency, staff permanency	High-level stakeholders, PSU staff, SKPD staff, LPSE	Qualitative interviews, quantitative surveys, administrative data	6.2.1, 6.2.2, 6.6.1
b. PSUs have adopted the Maturity Model as an approach to supporting their organizational development goals?	Adoption of Maturity Model	PSU staff, project-generated monitoring data	Qualitative interviews, project-generated monitoring data	Can only be assessed at endline
3. Systems				
a. What types of procedural changes are taking place in the conduct of procurements?	Adherence to best practices in procurement	PSU staff, LPSE	Qualitative interviews, quantitative surveys, administrative data	6.3.1, 6.6.2
b. What was the quality of policies and procedures developed by the project?	Quality of policies and procedures developed by the project	High-level stakeholders, PSU staff	Qualitative interviews	6.3.2
c. Are there changes in policies, procedures, or otherwise that could lead to quality improvements in ultimate procurement (contract) outcomes? How so?	Adherence to best practices in procurement related to quality improvements	High-level stakeholders, PSU staff, SKPD staff, LPSE	Qualitative interviews, quantitative surveys, administrative data	6.3.2, 6.6.2
d. Are there changes in policies, procedures, or otherwise that could lead to savings (financial or total lifecycle) in government procurements? How so?	Adherence to best practices in procurement related to cost savings	High-level stakeholders, PSU staff, SKPD staff, LPSE	Qualitative interviews, quantitative surveys, administrative data	6.3.3, 6.6.2
e. Are PSUs using e-catalog for standard purchases?	Use of e-catalog	High-level stakeholders, PSU staff, project-generated monitoring data	Qualitative interviews, quantitative surveys, project-generated monitoring data	6.3.4
f. Are PSUs using the PMIS?	Use of PMIS	High-level stakeholders, PSU staff, project-generated monitoring data	Qualitative interviews, quantitative surveys, project-generated monitoring data	6.3.5

Evaluation Question	Key Outcomes	Data Source	Data Collection Method	Link to Findings Section
g. What was the quality of PMIS?	Quality of PMIS	High-level stakeholders, PSU staff	Qualitative interviews, quantitative surveys	6.3.5
h. Has the PMIS contributed to changes in procurement planning or implementation?	Contribution of PMIS to changes in procurement planning or implementation	PSU staff	Qualitative interviews	6.3.5
i. Does the design of PMIS meet the needs of the PSUs and other procurement actors?	Quality of design of PMIS relative to needs of PSUs and other procurement actors	High-level stakeholders, PSU staff	Qualitative interviews	6.3.5
j. Have PSUs developed their own framework contracts?	Development of framework contracts	High-level stakeholders, PSU staff	Qualitative interviews, quantitative surveys	6.3.4
k. Have PPPs been conducted in accordance with the policies and procedures developed by the project?	Development of PPPs and conformity to best practices recommended by the project	Case study	Qualitative methods	Can only be assessed at endline
4. Skills				
a. Are the skills/knowledge emphasized in the training spreading within the PSU? How so?	Skills and knowledge of procurement	PSU staff, SKPD staff	Qualitative interviews, quantitative surveys	Can only be assessed at endline
b. What was the quality of training and mentoring?	Quality of training and mentoring	High-level stakeholders, PSU staff	Qualitative interviews, quantitative surveys	Can only be assessed at endline
c. Has the procurement knowledge and skill of trainees improved?	Skills and knowledge of procurement	PSU staff, project-generated monitoring data, LPSE	Qualitative interviews, quantitative surveys, project-generated monitoring data, administrative data	6.4.1, 6.4.2, 6.6.3
d. Are there detectable improvements in budget execution and efficiency of procurement execution in the PSUs and associated SKPDs?	Budget execution and procurement efficiency as measured by time from issue of tender to contract, self-reported efficiency	PSU staff, SKPD staff, LPSE	Qualitative interviews, quantitative surveys, administrative data	6.6.3

Evaluation Question	Key Outcomes	Data Source	Data Collection Method	Link to Findings Section
5. Staffing				
a. Are staff now permanent staff?	Share of staff made permanent	High-level stakeholders, PSU staff, project-generated monitoring data	Qualitative interviews, quantitative surveys, project-generated monitoring data	6.5.3
b. Do staff seem committed to and engaged in pursuing a procurement career path?	Commitment to procurement career	PSU staff	Qualitative interviews, quantitative surveys	6.5.4
c. Are trained or "permanent" staff retained?	Staff intend to stay in procurement position	PSU staff	Qualitative interviews, quantitative surveys	6.5.5
d. Do staff feel more supported administratively and legally?	Self-reported administrative and legal support	PSU staff	Qualitative interviews, quantitative surveys	6.5.4
e. Was there a gender inclusive strategy for recruiting procurement staff?	Gender inclusiveness of recruiting	High-level stakeholders, PSU staff, Project-generated monitoring data	Qualitative interviews, quantitative surveys, project-generated monitoring data	6.5.2
6. Overall Evaluation Questions				
a. Were the Activities/Sub-Activities implemented as designed?	Fidelity to design and perceptions of quality	High-level stakeholders, PSU staff, project-generated monitoring data	Qualitative interviews, quantitative surveys, project-generated monitoring data	Can only be assessed at endline
b. What were the implementation challenges and successes?	Implementation challenges and successes	High-level stakeholders, PSU staff, project-generated monitoring data	Qualitative interviews	Can only be assessed at endline
c. Is there evidence that the interventions have resulted in the outcomes outlined in the project logic?	High-level outcomes in project logic	High-level stakeholders, PSU staff, SKPD staff, LPSE	Qualitative interviews, quantitative surveys, administrative data	6.6.4
d. Was the set of activities designed the right or most strategic intervention for the Indonesian procurement context or to improve Indonesian government procurement?	Right or most strategic intervention for Indonesian context	High-level stakeholders, PSU staff, SKPD staff	Qualitative interviews, quantitative surveys	Can only be assessed at endline

Evaluation Question	Key Outcomes	Data Source	Data Collection Method	Link to Findings Section
e. Has framework contracting/e-catalog resulted in time and/or cost savings?	Cost savings due to framework contracting/e-catalog	High-level stakeholders, PSU staff, SKPD staff	Qualitative interviews, quantitative surveys	6.3.4
f. Is there evidence for cost savings in the program PSUs?	Cost savings due to PM Project components	High-level stakeholders, PSU staff, SKPD staff, LPSE	Qualitative interviews, quantitative surveys, administrative data	6.3.3
g. How has budget absorption in the PSUs changed over time?	Budget absorption[6]	PSU staff	Qualitative interviews, quantitative surveys	6.2.2
h. Has there been an increase in PPP transactions?	PPP transactions	Case study	Qualitative methods	Can only be assessed at endline
i. Did the program contribute to change perceptions of corruption or transparency?	Perceptions of corruption and transparency	High-level stakeholders, PSU staff, SKPD staff	Qualitative interviews, quantitative surveys	6.6.1

To answer these evaluation questions, we designed a mixed-methods evaluation. The methods and data include:

1. A **pre-post design with a comparison group** for the qualitative in-depth interviews with 164 PSU staff and associated spending unit staff for ***Phase 1 and Phase 2*** treated PSUs and the selected comparison PSUs (baseline for Phase 1 PSUs was conducted via qualitative tools to capture retrospective conditions) as well as 10 key informants, who included MCC, LKPP, MCA-I, and PM Project contractor staff. The comparison groups were selected to match as closely as possible the treatment PSUs' characteristics in terms of size, types of procurements, urbanicity, government layer (provincial government vs district government vs municipality) and geographic region.

2. A **pre-post design** (a difference-in-differences[7] analytic approach) with a comparison group for the quantitative survey with staff at PSUs and their associated spending units

[6] The average rate of ***budget absorption*** is defined as the percentage of annual procurement budget across pilot PSUs committed in the quarter. Formula =[SUM contract funds signed in all pilot PSUs in the quarter] / [SUM annual procurement budget of all pilot PSUs]

[7] ***Difference-in-differences***, also known as "double difference" or "DD", estimates the counterfactual for the change in outcome for the treatment group by taking the change in outcome for the comparison group. This method allows us to take into account any differences between the treatment and comparison groups that are constant over time. The two differences are thus before and after, and between the treatment and comparison groups.

only for Phase 2 treated PSUs and the selected comparison PSUs (as Phase 1 PSUs have already received the treatment). The sample size at baseline was 426 interviews.

3. A **comparative interrupted time series** design using the SPSE (Electronic Procurement System) administrative data collected through the Electronic Procurement Service (*Layanan Pengadaan Secara Elektronik,* LPSE) focusing on tender-related outcomes ***only for Phase 2*** treated PSUs and the selected comparison PSUs (as data disaggregated by treatment status was only available in 2015 onwards).The sample size for 2015 was of around 6,000 tenders.

4. A **descriptive analysis** of cross-sectional project monitoring data collected at the end of the project ***for both Phase 1 and Phase 2*** treated PSUs.

The qualitative interviews and the quantitative surveys investigate staff and key informant perceptions (not the accuracy of these perceptions). It is important to note that all perception data are, by nature, subject to bias. The evaluation team conducted interviews across PSUs to look for consistency and variation to attempt and deal with this concern and has assessed for and noted possible bias throughout all analysis and reporting.

Moreover, the evaluation team clearly understands that culture determines how people perceive matters such as time, risk and corruption and hence it will be crucial in interpreting results at endline. The interview and survey data focused on shared values and organizational culture related to corruption and transparency in public procurement. They also collected data related to the structural facilitators and barriers to PSU permanency and independence; procurement system and process improvement (including cost savings); requisite PSU staff skills development; and PSU staffing models. The LPSE is responsible for the SPSE which will provide outcomes focused on tender-level key performance measures, such as costs and procurement times. This information can be used at endline to assess if changes in policies, procedures, or other areas are leading to savings (financial or total lifecycle) in government procurements. Finally, the internal Performance Measurement and Management (PMM) data will be assessed for evidence of process improvement over the life of the treatment PSUs' involvement in the PM Project.

This mixed-methods approach uses the qualitative data to hone the understanding of the quantitative result. Quantitative data will provide valuable information regarding direction, distribution, and magnitude of results, while qualitative data can provide an understanding of the nuances behind the statistical output.

Baseline Findings

Attaining the goals of the PM Project is dependent upon the successful interaction of its multiple component activities. Correspondingly, in order to determine the overall effect of the PM Project, our evaluation must assess the success of each of these activities, as well as their interaction. Below we provide a high level summary of the baseline findings organized by our evaluation's 5S framework as they apply to the evaluation questions set forth in the approved design (see Section 4.0). In each of five components we provide observations we believe will be most relevant to the outcomes evaluation that will be conducted after endline data collection. In addition, we provide our assessment of how the project's activities may relate to those outcomes. Results are limited and conclusions cannot be drawn from baseline data. We

believe that the key take-home message from baseline data collection is that PSUs strongly support the goals that the PM project seeks to achieve. Many of the PSUs from which baseline data were collected already appeared to be moving in the direction of organizational transformation that the project is seeking to implement and strengthen. Much greater detail regarding all results from baseline data collection is contained in Section 6.0.

Shared Values

In the context of this evaluation shared values are viewed as a reflection of the PSUs' organizational culture. An organization's culture is shaped and affected by internal and external forces. PSUs are subject to outside influences well beyond their direct control or ability to affect. Therefore, one of this study's evaluation questions directly addresses how issues related to the political economy (or other aspects) of the procurement system and its actors not directly addressed by the PM Project might impact the project's ability to achieve its intended results. Exogenously, PSUs are influenced by both the local community and larger political environment in which they operate. Therefore, our baseline data collection focused on understanding how both exogenous and endogenous factors may affect the success of the PM Project.

During baseline key informant interviews with PM Project staff and implementation leaders, some individuals expressed concern that, as a new agency, LKPP had limited stature and authority to advocate for the procurement system and the PM Project in situations involving competing ministry-level priorities. Their concern was that LKPP may not have the ability to assist the PM Project to overcome obstacles created by conflicting political goals and agendas of other, more powerful ministries. However, over the course of this evaluation's design and baseline data collection period there was evidence of LKPP being able to facilitate the resolution of conflicting Ministry of Home Affairs (MOHA[8]) regulations that hampered PSUs attaining permanency. Therefore, at the baseline before project start, the data suggests that LKPP may be sufficiently well-positioned to overcome such challenges. In addition, key informants reported growing political will to support the program, as evidenced by increasing numbers of MOUs supporting PSU activities. However, concerns regarding exogenous factors' influence on procurement outcomes remain. Notably, there is the issue of corruption investigation and legal support for procurement staff. There is lack of standard interpretation of procurement regulations and laws across locales that can lead to procurement staff being unfairly swept up in corruption charges. This results in procurement staff being afraid to make decisions for fear of being investigated if they interpret regulations differently from local law enforcement. Our evaluation will monitor and assess whether such conflicting regulations, competing agendas and differing interpretation of laws create obstacles to the PM Project's ability to achieve its intended results.

Within PSUs, the evaluation focuses on whether, and the degree to which, the PM Project results in a change in culture/shared values that align with the professionalization goals of the project. Establishing and committing to a shared vision can have a great effect on the ability to implement and sustain organization changes and set expectations regarding organizational

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[8] 1) Law Number 23 Year 2014; 2) Law Number 9 Year 2015; 3) Home Affairs Ministerial Decree Number 99 Year 2014; 4) Government of Republic of Indonesia Regulation Number 41 Year 2007.

norms (Kotter 1996). One of the overall measures employed by our evaluation is determining whether (at baseline) PSUs have a stated shared vision that sets the tone and expectations of the PSU's organizational culture. About half of the PSUs in both the Phase 1 and Phase 2 treatment and control groups reported having written vision statements. This demonstrates significant room for increasing the proportion of PSUs that develop and employ strategic vision statements as tools for establishing and communicating standards for PSU operations that align with the PM Projects.

One of the key organizational transformation goals communicated by key informants involved moving PSU culture away from risk aversion to applying judgement that extends beyond strict regulatory compliance. Such a change will require a successful interaction of increased cross-agency support at the national and local level (e.g., protections for procurement staff regarding inappropriate corruption investigations), as well as developing managers' and staffs' procurement technical knowledge and analytic skills interpreting regulations and application of risk management. It was also noted that cross-training is equally important in order for auditors to shift their understanding of procurement to allow PSU staff to make awards based on value for money instead of lowest cost.

It is unrealistic to expect that the PM Project can change the larger GOI political economy and competing ministry-level priorities. However, as of baseline, LKPP has already demonstrated some success in effectively coordinating with other ministries to resolve conflicting regulations; setting the stage for reforms planned under the project. Changing PSUs organization culture and shared values from risk aversion to applying judgement that extends beyond strict regulatory compliance is not something that can be accomplished through training alone. The ongoing management and staff mentoring is the sort of longer term approach that is more likely to help the PSUs evolve their practices over time.

Structure

The PSU structural changes assessed through the evaluation include leadership and management, as well as PSU permanency and independence. Unsurprisingly, interviews with PSU management staff (Phase 1 and 2, treatment and control) confirm that in baseline PSUs vary in organizational structure, staff roles, and leadership functions depending on (among other things) the legal status of the PSU. However, overwhelming both management and non-management PSU staff believed that is was very important for PSUs to be permanent. Interviewees noted that permanence helps to improve the performance of PSUs, allowing for greater focus, PSU control over their budget and role clarity. They also found that full time staffing supported through permanency creates greater focus for procurement staff by only having to report to one agency, which improves efficiency, flexibility, and speed.

At baseline, PSU staff see independence as equally important because it reduces opportunities for outside interference in the PSUs' work and decision making. There was agreement among PSU management and line staff, as well as SKPD staff, that (at baseline) there was broad political support for independence. Most of those interviewed believed that their PSUs had adequate independence and authority to conduct high-quality procurements. A few interviewees reported some constraints faced in achieving permanent and independent status. Challenges included regulatory constraints or conflicts, unclear career paths, and the slow speed of the process involved in achieving permanency.

There is strong support among PSUs for permanence and independence. We found that most are interested in adopting the structural changes promoted by the PM Project that are necessary for attaining permanence and independence. The likely challenge to achieving that status will be for those PSUs located in sites where there is lack of local political support. It will be important to observe if increasing support for the goals of the PM Project is sufficient to overcome these challenges.

Systems

As demonstrated in the PM Project logic, project activities focus on system-level changes intended to affect numerous policies, procedures and processes, including use of e-catalog, PMIS and framework contracts. These system changes and additions seek to institute best practice policies and procedures that make PSU systems more efficient and effective.

With regard to policies, procedures and processes, baseline data was collected to assess whether and to what degree PSUs had experienced employing standardized processes across seven relevant categories: planning, scheduling and workload flow, solicitation preparation, reviewing and evaluation contracts, awarding the contract, administering and managing the contract, and performance monitoring. This was demonstrated by the presence or absence of standard operating procedures (SOPs) for each of these categories. We collect this as an indicator of the PSUs current level of standardization of practices. If it is low, this creates two levels of challenge for the PM project to overcome (i.e., use of standardization, as well as adoption of new standardized processes), as opposed to just having to introduce new processes.

The majority (two-thirds or greater of PSUs) reported having SOPs for planning, scheduling and workload flow, and solicitation preparation. While a about half or fewer reported SOPs for reviewing and evaluating contracts, awarding contracts, administering and managing contracts, and performance monitoring. This comports with insights provided by key informants who noted that an important aspect of improving the public procurement system is raising the level of knowledge of PSU staff regarding the complete continuum of procurement activities. They were concerned that PSU staff only had procurement system knowledge limited to their direct responsibilities. Key informants believed this led to a suboptimal system. The rationale being that when PSU staff have a greater understanding of complete continuum of procurement activities, they are better able to coordinate with all stakeholders involved the procurement lifecycle, thus increasing efficiency and quality. Overall, PSU staff reported being mainly involved in solicitation preparation. While some staff in some PSUs had experience in the earlier and later parts of the continuum (e.g., planning, award process, and management), the overall level of experience beyond procurement preparation was relatively low. This indicates that there is room to increase the PSUs' level of involvement across the continuum of procurement activities.

Awareness and use of systems that the PM project is seeking to institute and strengthen varied. Awareness of e-catalog ranged from 64% to 100%. Use of the e-catalog varied among interviewees in all groups. In most groups, 60%-80% used the e-catalog system to some degree, some with regularity. These percentages do not discriminate between local or national e-catalogs. Only a very small number were completely unfamiliar with e-catalog. Half or fewer of the interviewees had knowledge of and experience with framework contracting, which is

similar to the proportion found in the Phase 2 survey data. The Phase 2 survey data show that at baseline little under half of respondents use an MIS of any kind to manage tenders, evaluate tender functions, manage vendors, conduct planning analysis, report, and perform e-catalog functions. Given the stage of development at baseline, we do not believe that any staff were reporting familiarity with the PM Project PMIS. As the PM Project PMIS is broadly implemented we will assess how this activity improves the knowledge and use of e-procurement tools.

Overall, PSUs expressed interest in having access to more standardized/routinized systems that could offer greater procedural clarity and organization. Many believed that such systems would help reduce corruption, bias and collusion and provide greater transparent. For example, those who used the e-procurement system noted that they felt more insulated from outside influences on bidding processes. Regarding systems changes' ability to affect cost-savings, many key informants thought that framework agreements, e-catalog, and improved staff capacity were the PM project changes most likely to result in cost savings. Those who discussed framework agreements believed that allowing for longer contracts instead of individual one-time purchases was a cost savings that could be realized quickly. E-catalogs were seen by key informants as a vehicle for achieving the objective of total value for money. Because auditor practices and current laws restrict procurement staff's ability to choose the highest-quality bids, staff must choose the lowest-cost one. However, in the e-catalog they do not have to choose the lowest-cost bid, and can instead choose the highest-quality ones. Key informants hoped that such system improvements would lead to increased value for money (e.g., quality, fitness for purpose and total lifecycle cost) over lower initial cost of purchase.

Skills

Some of the key evaluation questions focus on whether knowledge and skill of PSU staff improves, if that knowledge is disseminated across participating PSUs and whether it improves budget execution and procurement execution. The professionalization activities and goals of the project emphasize increasing knowledge and skills of PSU staff across all traditional PSU functions, as well as broadening the awareness of the larger procurement lifecycle. At baseline, the primary skills that key informants reported needing improvement were professional procurement technical knowledge and analytic skills, risk management and judgement that extends beyond strict regulatory compliance. Key informants specifically identified developing managers' and staffs' procurement technical knowledge and analytic skills as critical to improving procurement outcomes. As noted in the Shared Values section above, training is equally important for auditors in order that they have the same understanding and priorities.

To understand whether procurement knowledge and skill of trainees improved the survey of Phase 2 PSU staff contained an embedded knowledge quiz.[9] The scores on the survey's embedded knowledge quiz were relatively low; the mean score was in the low 50s out of 100. The scores of the quiz on procurement procedures demonstrate the need for the PM Project procurement skills training and mentoring, and also serve as benchmarks to compare the endline quiz results. The low averages establish a baseline with a great deal of room for

[9] These were a subset of the PM Project PSU skills post-training tests. This module can be found in Annex 9.7

improvement. Both Phase 2 treatment and comparison survey respondents performed best on topics focused on documentation of bid evaluation findings, use of monitoring to proactively address errors, and risks resulting from inaccurate budgeting. The areas in which they did most poorly were the effects of requirements for management of timeliness and cost, ordering of procurement process steps, effect of framework agreement on competition and price, and stakeholder involvement in the evaluation process. These findings comport with the observations noted earlier about the need for broader knowledge of the overall continuum of procurement activities, the low baseline level of awareness regarding framework contracting, and, need for greater risk management skills.

Improved skills should lead to higher efficiency and improvement of both the quality and speed of PSU staff decision making. This should be reflected by the type of procurement evaluation methods used in the PSUs and by the duration of the different steps necessary to conduct procurements. We can assess both these elements for Phase 2 PSUs using the SPSE data for 2015. The data present in the Baseline Report shows tender information aggregated by procurement category (procurement of goods, construction works, consultancy services for business entities and other services), and government agency type for 2015 and only for subnational levels of government (e.g. provincial and local governments, not Ministries), since there is only data available for Phase 2 treatment and comparison PSUs at this government level and for 2015 onwards. According to this data source, the knockout method[10] is clearly the most common evaluation method to select winning tenders used in both treatment and comparison Phase 2 PSUs in 2015. In both groups the next most common method is the lowest cost. In terms of the number of days taken to evaluate bid proposals it is evident that construction works is the category that takes the most time in both comparison and treatment Phase 2 PSUs. However, for the duration of time it takes to evaluate bid winners, treatment PSUs take the most time in business consulting services and comparison PSUs taking the longest in the procurement of goods. Finally, to validate tenderer's qualifications, the distribution is more balanced in the treatment group across the four procurement categories, all taking a similar amount of time, but in the comparison PSUs, construction works, again, takes the longest. Across agency types, more localized governments are the types of procurement agencies with the longest duration of these procedures.

Staffing

The PM Project intends to increase the number of permanent PSUs and to develop a workforce of permanent and functional staff. Our evaluation will address the key questions addressing changes in levels and permanent staff, full time staff and functional staff, as well as gender inclusivity[11]. To understand the likelihood of successful transition to the desired staffing roles,

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[10] The knockout method refers to a system where the tender committee applies some predefined "knockout" to incoming bids. For instance, if X is a knockout criterion and Bid 1 is (x, y, z) while Bid 2 is (y, z), Bid 2 would be considered irrespective of whether it is the lower bid. In other words, if one of the tenderers does not comply with one (or more) of the criteria pre-defined by the tender committee, the tenderer will not be considered since it has been "knocked out."

[11] MCC's projects are designed to provide women, the poor, and marginalized groups with improved access to infrastructure, land, healthcare, education, and productive roles within the economy. See:

baseline data are necessary to determine baseline levels of staffing by type (e.g., part/full-time, functional). It is also important to assess the PSUs' interest in, and sense of importance of, these staffing roles and models. This will provide an indication of their level of support for, or resistance to, such changes.

At baseline more than half or more PSUs across all groups plan to move in the direction of the staffing goals of the PM project (i.e., increasing the proportion of full-time and functional staff). Whether staff commit to remaining in these roles will affect PSUs' long-term institutional capacity and sustainability. Therefore, staff were also surveyed and interviewed about their level of interest in pursuing and maintaining careers in public procurement. At baseline, a little over 40% of Phase 1 treatment staff intended to pursue a procurement career, while over 50% of comparison group did. Among the Phase 2 interviewees, over 80% of staff reported that they intend to pursue a procurement career. The low rates of plans to remain in procurement could pose a sustainability concern for the Phase 1 PSUs; however, the PM Project activities may affect those rates in a positive direction. Equally important is determining the degree to which these staff roles are available to women as well as men. Baseline findings show that, overall, gender inclusivity is viewed as weaker by women than by men and is an area that provides an opportunity for improvement.

Almost uniformly, PSU staff reported that they believed that full time and functional positions were the superior staffing model for PSUs. Absent any external challenges to adopting these staffing models, baseline attitudes indicate that they are likely to be broadly adopted by PSUs directly involved in the PM Project.

Other Evaluation Outcomes Questions

Finally one of the ways in which the PM Project aims to effect organizational change is by reducing corruption, bias, and collusion and increasing greater transparency. It must be noted that the findings presented in this report represent only respondents' perceptions and may be subject to social desirability or bias regarding the level of perceived corruption in one's own workplace in comparison to the larger national environment. The Phase 2 PSUs' quantitative survey data showed that at baseline, before the PM Project start, PSU staff perceived much less corruption, bias, and collusion within their PSUs than at the national level. About half perceived "any" corruption in their PSU, but 90% or more at the national level. When asked about high levels of corruption, bias, and collusion staff felt that rarely occurred at their PSU (about 5%). The qualitative interview data support results of the survey data, indicating that PSU staff were aware of corruption, bias, and collusion in Indonesia's public procurement. Qualitative interview data also indicated that nearly all PSU staff believes that it is possible to reduce collusion, corruption, and bias through organizational, structural, and systems change. This indicates support for and feasibility of this project goal. Finally, it was perceived that PSU leadership's commitment to and increased communication about core values and expectations may support the enforcement of norms and behaviors that reduced the tolerance for collusive or corrupt practices.

Millennium Challenge Account – Indonesia (MCA-Indonesia) "Indonesia Compact Updated Social and Gender Integration Plan (SGIP)" July 29, 2016

The study design and data collection methods have certain limitations. The qualitative interviews and the quantitative surveys collect data regarding the perceptions of staff and key informants. Perception data are, by nature, subject to bias; therefore, the study team will assess for and note possible bias throughout all analysis and reporting. When we refer to information provided by interviewees, we are providing information collected using qualitative methods for both Phase 1 and Phase 2 PSUs. When we discuss survey results, we are only presenting statistics for Phase 2 PSUs collected and analyzed using quantitative methods.

Hence, it is understood that results are limited and conclusions cannot be drawn from baseline data. We believe that the key take-home message from baseline data collection is that PSUs strongly support the goals that the PM project seeks to achieve. Many of the PSUs from which baseline data were collected already appeared to be moving in the direction of organizational transformation that the project is seeking to implement and strengthen.

Risks to the Project Logic

Based upon the study team's understanding of the project logic and the results of the baseline data, the threats and risk related to the project logic are presented below. These are organized by the five major areas of activities employed by the PM Project to effect change.

Procurement Skills Training and Mentoring

The quality of the local trainers and mentors and their associated development activities will determine the success of the PM Project's knowledge transfer goals. While the relative quality is unknown at baseline, ongoing quality monitoring on the part of the lead contractor can identify early signs of poor performance and implement the necessary mitigation plans. Some informants stated that in the early stages of Phase 1 training being sent to Jakarta was viewed as an enjoyable event for staff. Therefore, some PSU managers split up the training trips among different staff. Yet, other key informants noted that these instances were rare and did not indicate a systemic problem. Also, as part of the key informant interviews, the study team learned that MCA-I and the contractors providing the training were aware of this possible issue and were using a tracking log to account for all staff training across modules.

Another possible challenge is staff turnover and potential loss of institutional capacity building obtained through staff training and mentoring. PSUs need to have a plan in place to continually train new staff and transfer the knowledge and expertise of departing staff to remaining staff. According to the most recent MCA-I project implementation document (released in July 11th 2016) computer based training (CBT) was positioned to potentially replace the logistics budget for the second phase. Access to the ongoing, as-needed computer-based training developed for Phase 2 may be an effective tool to mitigate any potential loss of institutional knowledge and capacity to staff attrition. However, based on the training implementation plan developed in October 2016 there are two types of training will be implemented in PST and IDT as follows: 1) Face to Face Training/FTF for all PST and the first three modules for IDT; 2) Computer Based Training (CBT) is starting from module 4 to 12 for IDT).

Organizational Development and Mentoring

Similarly, the primary challenge to organizational development and mentoring is the potential loss of institutional knowledge and capacity through staff attrition. Institutionalization of the new

approaches developed through the development and mentoring assistance will be necessary to ensure that changes and improvements are not person-dependent. Developing comprehensive succession and transition plans will also help to maintain the capacity developed through the PM Project.

PMIS

The new PMIS system was in its developmental phase during the baseline data collection period. Until it is developed further, it will not be possible to assess threats unique to the system. It will likely face challenges applicable to any new MIS system, including developing sufficient training and change management and system adoption plans.

Development and Use of Framework Agreements

The study team did not perceive any inherent threats to the development and use of framework agreements of the project logic. Staff noted that they believed this could be an effective tool for reducing corruption, collusion, and bias, as well as increasing transparency. As with PMIS, the e-procurement system will likely face challenges applicable to any new MIS, including developing sufficient training and change management and system adoption plans.

PPP and Sustainable Public Procurement (SPP) Activities

Finally, per discussions with MCC, PPP and SPP activities will be assessed as part of a nested sub-study at endline. Therefore, the team did not collect data to assess threats to these activities.

Future analysis will focus on exploring endline data and carrying out the impact evaluation methods described earlier in order to obtain concrete evidence on the impact of the PM project on cost savings, performance, and efficiency in the procurement process.

1. Introduction

1.1 Country Context

The procurement of goods and services on behalf of government agencies accounts, on average, for approximately 12 percent of Gross Domestic Product in developed countries and up to 20 percent in developing countries (Organisation for Economic Co-operation and Development (OECD) 2012: 148-9). Indonesia, however, spends more than 30 percent of its national budget, and around 60 percent of foreign development assistance, in this way (CIPE 2011: 13). A considerable part of public procurement spending in Indonesia is linked to public infrastructure development. Total funding for infrastructure development amounted to around IDR 400 trillion ($42 billion) through 2014. The share of procurement money spent on infrastructure development is even more pronounced at the local level (Satriyo et al. 2003).

The country's procurement system is marred by corruption and inefficiency. This has contributed to the country's crumbling infrastructure, delayed government spending, and weak performance on a range of social indicators (Harvard Kennedy School 2010: vi-viii). Procurement reform has the potential to reduce resource inefficiency and save precious resources for other investments that can contribute to Indonesia's economic growth. In this context, the Government of Indonesia (GoI) together with donor agencies has pursued various reform programs aimed at improving the way Indonesia's procurement system works since 2003. These initiatives include the adoption of new procurement regulations, improvements in the organization and execution of procurement processes, the strengthening of administrative capacity for bureaucrats involved in procurement decisions, and the establishment of a central procurement agency in 2007 with a broad mandate to create rules and monitor compliance with existing rules. National-level agencies have usually driven these reform initiatives, but procurement decisions are increasingly made at the subnational level due to Indonesia's comprehensive administrative and fiscal decentralization over the past decade (Sacks et al. 2014).

Indeed many of the dynamics within Indonesia's public procurement sector are politically rather than economically motivated (Aspinall and van Klinken 2012: 26). This finding is in line with a recent report on Public Financial Management (PFM), which found that, often, "[f]ormal processes mask the real processes through which resources are raised distributed and spent" (Porter et al. 2011: 7). Hence, it is important to understand the political context in which procurement occurs in contemporary Indonesia.

Political Decentralization

Only a year after the demise of the New Order, Law No. 22/1999 on Regional Government shifted the bulk of political authority to local governments, while the central government was left with exclusive control over security and defense, foreign policy, justice and religious affairs. The central government shifted most power to districts because various secessionist movements had raised fears among the central government that the collapse of the oppressive New Order regime would reinvigorate demands for independence in such areas. However, national level politicians also feared that excessively empowered provinces would find it easier to secede. By shifting most powers to districts, the administrative layer below the province, demands for more

autonomy were met while secessionist aspirations undermined (Turner and Podger 2003: 25). The decentralization of political authority aimed to create legitimacy and foster democracy in a political system that had just overcome more than three decades of authoritarian rule. Shifting political power to the subnational level would help the government local needs, create new opportunities for local communities to participate in decision-making processes and provide "the impetus for the growth of a public sphere at the local level" (Hidayat and Antloev 2004: 281). This increased transparency and accountability would improve service delivery, including the procurement of public goods (World Bank 2000; Asia Foundation 2004). Several measures were taken to increase accountability and improve service delivery. The introduction of elections for both executive and legislative governments aimed to increase vertical accountability between local governments and ordinary citizens. New oversight mechanisms wanted to strengthen horizontal accountability between local parliaments and local executives. Finally, several reform initiatives aimed to improve the overall capacity of local governments. Vertical Accountability in Subnational Politics To provide Indonesian citizens with a mechanism to hold their government accountable with regard to various reform promises, including public procurement reforms, competitive elections were introduced for both local executive and legislative posts. Direct gubernatorial and district head elections have been held in all 33 provinces and the 497 districts respectively since 2005. Local legislative elections have taken place every five years since 1999, held concurrently with the polls for the national parliament.

This is in stark contrast to the New Order era, during which the center hand-picked subnational executive heads and local legislative elections were rigged in favor of Suharto's political vehicle, the Golkar Party. Law No. 22/1999 on Regional Government initially stipulated that local parliaments had the powers to elect governors and district heads. Each party caucus was allowed to nominate one candidate. Unfortunately, local assemblies immediately used their new powers for rent-seeking purposes and sold their votes to the highest bidder. In an attempt to curb political corruption, Law No. 32/2004 on Regional Government abolished aforementioned powers of the parliament and introduced direct, popular elections for local executive heads. Supporters of the new regulation argued that the mandate of local executive heads would be stronger in a system with direct elections, and the parliaments could no longer extort money from candidates. Parties were still given an important role in these contests, however, since the revised law required local candidates to be nominated by a party or a coalition of parties that had earned at least 15 percent of the vote in the most recent local parliamentary election, or that controlled at least 15 percent of the seats in the local legislature.

After these reforms were adopted in 2005, political corruption did not disappear but simply shifted from local parliaments to local party branches as prospective candidates now had to pay off party bosses and local party cadres to secure a nomination prior to elections. In most cases, candidate-party relations collapsed after the former had secured the party nomination. Since most local party branches are ill-consolidated and have no financial means, they cannot help candidates to campaign. In addition, most candidates running in elections for an executive post at the local level are bureaucrats and therefore not allowed to be members of parties. Candidates therefore simply pay parties for a nomination but rely almost exclusively on a combination of personal patronage networks and vote-buying to mobilize the electorate (Buehler and Tan 2007: 41-69).

In an attempt to break the parties' monopoly on nominations, Law No. 12/2008 on Regional Government that amended Law No. 32/2004 stipulated that independent candidates were allowed to participate in local executive head elections. But for reasons explained below, most candidates continue to run in local executive elections based on a party nomination and not as independent candidates.

In short, regulatory reforms have steadily increased competitiveness in local elections as well as gradually expanded the importance of the popular vote. Formal vertical accountability in Indonesian local politics is stronger than in any previous political system in the country's history. Horizontal Accountability in Local Politics Horizontal accountability between subnational parliaments and local executive heads has become steadily weaker since 1999. Law No. 22/1999 on Regional Government assigned local parliaments extensive powers vis-à-vis local executive head offices. For instance, parliaments had to sign-off on an accountability report after 1999 to extend the tenure of the local executive head. Since local parliaments abused this supervisory power and asked local executive heads for bribes in exchange for submitting a favorable accountability report, Law No. 34/2004 on Regional Government no longer requested an accountability report from legislators.

Furthermore, Law No. 34/2004 on Regional Government allowed executive heads to issue local regulations together with the parliament. Local executive heads are usually the dominant force in these deliberations (Ibrahim et al. 2009: 1-42; Kristiansen et al. 2008: 64-87). Local parliaments have issued less than 2 percent of the approximately 6,000 new regulations adopted since 2004. Once again, limited resources and a lack of drafting expertise among committees and council secretariats have mainly been responsible for this development (USAID 2006: online).

Finally, Law No. 32/2004 on Regional Government gave executive heads the powers to intervene in the work of the local parliaments. The appointment and supervision of civil servants in the local parliament secretariat now fall under the authority of the local executive head. This has reduced the autonomy of local parliaments and weakened their ability to hold the executive government accountable since it is normally the secretariat that is preparing the material necessary for legislators to examine executive government decisions.

To summarize, institutional reforms have formally improved vertical accountability between local politicians and ordinary citizens. Competition among state elites is real but a variety of institutional and socio-economic variables have undermined vertical accountability. Overall, formal improvements in accountability have yet to translate into meaningful change in the composition of local elites. The explosion of campaign costs has accompanied the shift to a more transparent and accountable electoral system for both executive and legislative elections with potential negative consequences for public procurement (Mietzner 2007: 238-63). Horizontal accountability between the legislative and the executive branches of local government remains weak and has steadily declined in importance since 1999. Finally, political decentralization has placed new financial pressures on local politicians, while opening up new opportunities for predatory private sector interests. Against this backdrop, the local environment for public procurement reform remains problematic.

Fiscal Decentralization

The fiscal decentralization framework adopted in 1999 has also created new challenges for public procurement reform in Indonesia. There were various efforts to reform Indonesia's PFM framework after the collapse of the New Order, including various new laws and regulations regarding budget formulation and execution, the procurement of public goods as well as a framework to strengthen audit mechanisms.

Fiscal decentralization was an important component of these reform efforts (Wescott 2008: 10). Fiscal decentralization has long been heralded as a means to improve government efficiency and effectiveness, to achieve macroeconomic stability and to spur economic growth. Fiscal decentralization is also supposed to improve citizens' welfare by improving the efficiency of financial allocations and ensuring more equitable service delivery. In addition, fiscal decentralization is believed to increase resource mobilization at the local level while reducing strains on central finances (Oates 1972).

Indonesian local governments followed the so-called Finance Administration Manual (Makuda) that had been written in 1978 to manage both local revenues and expenditure during the New Order era. At that time there were substantial intergovernmental fiscal transfers from the center to the subnational level. The center clearly specified the objectives on which these transfers had to be spent. The national government was also directly involved in the provision of services paid by these transfers at the subnational level.

Local governments were required to match some of these funds with a small percentage from local funds. Financial contributions by local governments to subnational spending were one of the lowest in the world during the New Order era. In the 1990s, for instance, local governments in developing countries financed on average 88 percent of their expenditures from their own resources, while local governments in developed countries spent on average 62 percent of their expenditure from their own resources (Bird et al. 1995: 1-40). The fact that Indonesian localities paid only around 21 percent of their expenditure from local revenues (UNDP 1993) shows the low level of financial autonomy Indonesian localities enjoyed during the Suharto period.

Indonesia's new revenue and expenditure assignment laid out a framework to address vertical and horizontal imbalances between and within different government layers. Concretely, the new law strengthened the fiscal authority of local executive heads, who were empowered to control the financial management of their respective territories by authorizing expenditures and setting budget priorities as well as a budget ceiling. Local budgets theoretically need to be approved jointly with local parliaments, but evidence suggests that the participation of local parliaments in budget deliberations has been very limited. Parliamentarians report difficulties in engaging in budget formulation processes due to the weak capacity of assemblies but also because of higher level interference. The law requires higher level executive branches (the provincial government in the case of districts, the Ministry of Home Affairs in the case of provincial budgets) to approve budgets. Hence, many local parliaments have complained that this vetting process is undermining their independence. Often, national level agencies also demand a cut of the local budget in order to disperse funds that legally belong to subnational governments (Buehler 2009b, online).

Legislative and historical background

Current procurement reform initiatives have faced challenges that are rooted in the country's colonial era. The Dutch ruled most parts of the archipelago indirectly, as a consequence of which the colonial administration accepted a multitude of indigenous laws and different legal jurisdictions while it slowly implemented a universal legal code for the country. Hence, "a baroquely complex legal system" (Cribb 2012: 46-48) emerged that created a multi-layered and often contradictory framework for the regulation of state affairs.

After Indonesia achieved independence in 1945, the government ruled that colonial laws would be invalid if they violated the new constitution. "Since the Constitution was a brief, often vague, document, this provision meant that the application of law was formally subject to political considerations" (Cribb 2012: 39). Against the backdrop of overlapping and diametrically opposed legal frameworks, a "system of exemptions" (Cribb 2012: 23) emerged in which laws were bent in favor of state officials and private sector interests with political connections.

The authoritarian New Order regime under General Suharto, who ruled Indonesia between 1965 and 1998, consolidated and expanded this system. The Suharto administration created a "franchise system"—similar to the opium and tax farms that had been established during the colonial period (Butcher 1993: 19-44)—that encouraged bureaucrats, military personnel, and politicians to use state power to extract public resources for private gain (McLeod 2005: 367-86).

The collapse of the dictatorship in 1998 had mixed impacts on Indonesia's public procurement system. On the one hand, the newly democratic environment deregulated Suharto's patronage system. This created interstices that allowed new players to enter the "business of politics" and push it in new directions. On the other hand, patterns of corruption and collusion established under the New Order remained widespread in public procurement because they provided tangible economic and political benefits to elites (Buehler 2012a; Cribb 2012: 36). The decentralization of political and fiscal powers, which was part of the 1998 reform agenda, also created a highly heterogeneous procurement landscape across the archipelago, only adding to the complexities on the ground.

Soon after 1998, the GoI formally committed to comprehensive public procurement reforms. These commitments were formalized in 2003, when Presidential Decree No. 80/2003 on public procurement was adopted. The decree, which has since been amended seven times, superseded presidential decrees on the same matter dating from 1994 and 2000. It also took precedence over subnational procurement regulations. Meeting most criteria of international standards on public procurement practice, the decree has a broad mandate and covers goods, works, and services that use public funds, irrespective of their value. It also established regulations for government procurers at all levels of the bureaucracy.

Presidential Decree No. 80/2003 also required all local bureaucrats involved in procurement to be procurement-accredited by 2006. As a legacy of the New Order era, procurement professionals were limited in number and mostly employed in selected line ministries. There were also no distinct career paths or salary incentives for procurement professionals. Consequently, bureaucrats joined procurement committees on an ad hoc basis and returned to

their former positions upon completion of a project. Institutional memory with regard to procurement procedures therefore remained fragmented and inefficient (World Bank 2007: 104).

In addition to the aforementioned presidential decrees, which focus exclusively on public procurement, several new laws issued in recent years have also strengthened Indonesia's public procurement system. For example, the State Finances Law No. 17/2003, the State Treasury Law No. 1/2004, and the State Audit Law No. 15/2004 all contain paragraphs on public procurement mechanisms. A construction law dating from 1999 also stipulates regulations on the procurement of civil works and consulting services, as does Indonesia's comprehensive Competition Law No. 5/1999.

The institutional reforms listed above had several aims. One goal was to increase *transparency* within government agencies involved in public procurement. The second aim was to increase *competition*. The third aim of the institutional reform initiatives was to *criminalize collusive procurement practices*.

In addition to institutional changes, various new government organizations have been established to handle public procurement reform initiatives. Most importantly, Presidential Decree No. 80/2003 created a legal basis for the establishment of a National Public Procurement Agency (*Lembaga Kebijakan Pengadaan Barang/Jasa Pemerintah* (LKPP)). Established at the end of 2007 under Presidential Decree No. 106/2007 and modeled after the United States' Office of Federal Procurement Policy, the LKPP is a fully independent body reporting directly to the president and chaired by an appointee from the bureaucracy. The LKPP is tasked with developing policies related to the public procurement of goods and services. It also aims at strengthening procurement practices within the government, and provides advice and recommendations as well as dispute resolution (Gatra 2007: 12). The LKPP does not undertake procurement operations directly, nor does it have any purchasing or contracting function. It is solely in charge of formulating procurement policies and overseeing their implementation.

Presidential Decree No. 80/2003 and Presidential Regulation No. 54/2010 on Public Procurement also mandated the establishment of Procurement Service Units (PSUs). PSUs are responsible for conducting public procurement procedures on behalf of the government's technical departments, called Regional-Level Working Units (*Satuan Kerja Pemerintah Daerah* (SKPDs)). PSUs' tasks include preparing tender schedules, estimating costs for the tendering package, and evaluating bids in response to advertisements, as well as proposing a bid winner (Attström and Rusman 2010: 4). PSUs also handle complaints and appeals from bidders, but have no mandate to monitor the implementation of works and services (Rahman 2012c: 4). The PSUs will replace ad hoc procurement committees previously established by technical departments within government agencies, as stipulated in Presidential Regulation No. 8/2006. Presidential Regulation No. 54/2010 mandated that PSUs had to be established at all levels of government by 2014. In addition, Ministerial Regulation 77 (2012) established the framework for the Functional Position for Procurement for the first time.

Remaining Challenges

A number of challenges still need to be overcome in order to establish an efficient and effective procurement system in Indonesia:

a. **Indonesia continues to lack a comprehensive procurement law**. The National Development Planning Agency (*Badan Perencanaan dan Pembangunan Nasional* (BAPPENAS)) and the LKPP have been working on a draft law for several years. Indeed the draft law exists but is currently not included as a priority law to be issued by the legislative assembly. In the highly political influenced legislative assembly in Indonesia, the draft procurement law will unlikely be issued anytime soon, given the how time consuming and complex is to the passing of any law in such an environment. The absence of a comprehensive national law is especially cumbersome in a country such as Indonesia, whose procurement activities occur in a highly decentralized fashion. That said, it must be noted that the Peraturan Presiden 54/2010 has introduced nationally a more advanced procurement regulation that has included many international best practices; e.g. e-procurement, e-catalog, permanent and independent PSU, professionalization of procurement staff, greater transparency etc.

b. **The broader organizational environment is another obstacle to the efficient implementation of the aforementioned procurement reform initiatives**. The implementation of Presidential Decree No. 54/2010 is overseen first and foremost by the LKPP. The LKPP is seconded by auditing bodies, and anti-corruption agencies, and finally by civil society organizations overseeing procurement operations. Most importantly, the LKPP's capacity remains limited because it depends on external bodies such as the Ombudsman Office to ensure the integrity of public procurement institutions and the compliance of all players with public procurement legislation. There was no independent audit body for public procurement at the time of writing. Fraud and corruption in public procurement could theoretically be detected through the GoI's other auditing bodies, most of which have several decades of experience in public sector auditing. However, Indonesia's entire auditing system suffers from a lack of accountability, an unclear legal framework, and overlapping mandates between auditing bodies such as the Audit Board (*Badan Pemeriksa Keuangan)* and the Development Finance Comptroller (*Badan Pengawasan dan Keuangan Pembangunan*), as well as a history of corrupt practices exerted by public auditors themselves (Sherlock 2002: 367–383). However, in recent years both the Audit Board and the Development Finance Comptroller have undertaken numerous capacity building programs and have been taking up more and more up their role to ensure compliance of procurement rules, including working more closely with LKPP to investigate deviations from existing procurement procedures.

To summarize, comprehensive procurement reforms followed the demise of the New Order regime in 1998 as part of a broader effort to improve Indonesia's public financial management system (Wescott 2008: 18–37). While the procurement system in Indonesia has been formally strengthened through various institutional-organizational reform initiatives (including referring to procurement as a strategic function in the government's mid-term plan 2015–2019,), public procurement remains problematic due to legal inconsistencies, weak state capacity, and insufficient enforcement of this regulatory framework. The decentralization of power has also exposed the varying capacities of local governments to implement these reform initiatives successfully. Consequently, the impact of institutional-organizational reforms on public procurement varies greatly across Indonesia. In addition, the political-economic environment

that facilitated collusion in procurement practices largely disintegrated after the end of the New Order era in 1998. On the one hand, this created opportunities for a more competitive, efficient, and transparent procurement system. On the other hand, these changes have created new incentives for procurement-related corruption. For instance, direct elections for politicians have created new financial pressures, which have often allowed private sector interests to sway public procurement processes in their favor. Finally, the devolution of political and fiscal powers has also introduced a high degree of variation into the public procurement landscape.

The Procurement Modernization (PM) project aims to help further reforms in the procurement system to ultimately lead to improved efficiency in the procurement of goods and services, cost savings, and economic growth. The PM Project is implementing multiple activity components to facilitate organizational and systems changes in procurement (see Section 2 for a description of project activities).

1.2 Report Objective

The objective of this report is to present findings from the baseline data for the Millennium Challenge Corporation (MCC)/Millennium Challenge Account-Indonesia (MCA-I) PM Project, which gathered information on context and shared values, PSU organizational structure, procurement systems and procedures, staff, and staff skills. The remaining report is organized into nine sections. Section 2 provides an overview of the project and the interventions being evaluated. Section 3 provides a brief literature review, summarizing the existing evidence and providing insight into gaps in the literature that the current evaluation will fill. Section 4 presents the evaluation design. Section 5 presents the data sources used for the evaluation and includes a discussion on quality issues encountered when attempting to analyze data from the *Layanan Pengadaan Secara Elektronik* (Electronic Procurement Service, LPSE). Section 6 presents quantitative and qualitative analytic baseline findings. Section 7 talks about the administrative aspects of implementing the evaluation. Section 8 provides references, and finally Section 9 contains annexes to the report.

2. Overview of the Compact and the Interventions Evaluated

The PM Project is part of MCC's five-year, $600 million Indonesia Compact, which encompasses three projects across health and nutrition, sustainable land and energy management, and procurement modernization. The PM Project is $75 million of the overall compact. The PM Project is designed to accelerate the government's procurement reform agenda and transform operation of the public procurement system in Indonesia. The project's objective is to strengthen the implementation of the procurement function within the GoI by building capacity and facilitating institutionalization of PSUs so that they are resourced with systems, processes, and skilled procurement professionals per Presidential Regulation No. 54/2010. This is expected to result in cost savings and efficiency improvements on procured goods and services, while ensuring that their quality satisfies the public need and is delivered to the public as planned. The logic of the project is that these savings should lead to more efficient provision of goods and services to the economy, while also leading to budgetary savings that can be applied to other productive investments, potentially enhancing economic growth.

The project was divided into two phases. The first phase entailed support to 29 demonstration PSUs and started in year one of the compact (2013-2018). The second phase started in 2016 and is expected to last for the balance of the compact term through 2018 (2016-2018). The original design entailed scaling up the total number of PSUs to a total of 100 and adjusting the PSU design, if necessary to yield the best results for the Project. In early 2015, a management decision was made to limit the number of total PSUs in the project in order to work more in depth and maximize effectiveness in the selected PSUs. Rather than spreading resources across a larger number of smaller PSUs, a choice was made to identify a smaller number of larger, potentially higher impact, PSUs. As a result, Phase 2 focused on 15 new PSUs in the last two years of the compact[12]. The revised approach brought the total number of PSUs supported by the PM Project to 44. See Section 2.1.2 for detail on participant selection.

The PM Project has been implemented, through MCA-Indonesia, by the National Public Procurement Agency (LKPP), and several implementing organizations (see Table 1). Reflecting the multi-faceted nature of a public procurement system, the PM Project supports the activities and sub-Activities summarized in Table 1 and described in detail below the table.

[12] The initial number was 16, yet, due to legal constraints LKPP, initially chosen as a Phase 2 PSU, could not be part of Phase 2.

Table 1. PM Project Activities

Activities	Sub-Activities	Detailed Activities	Implementing Organization
Procurement Professionalization Activity $44.657 million	Procurement Skills Training and Mentoring	• Procurement skills training (PST) • Ongoing procurement skills mentoring • Auditor training	• Booz Allen Hamilton
	Organizational Development Training and Mentoring	• Institutional development training (IDT) • Development support and monitoring organizational improvement roadmap • Performance measurement and management (PMM) training • Center of Excellence (CoE) training and mentoring • Maturity Model training and support • Technical assistance and mentoring on establishment of permanent PSUs	• Pricewaterhouse Coopers (PwC) • BTrust
	Development and Use of Framework Agreements	• Advisory services for Framework Agreements • Transfer knowledge and skills in the establishment and management of Framework Agreements • Establishment of framework agreements	• PwC
	PMIS	• Advisory services and development of the PMIS • PMIS procurement applications • E-catalog software • General procurement planning/SiRUP • Electronic contract management • Data warehouse	• European Dynamics Luxembourg SA/ European Dynamics SA PT Mitrais • PT Berca Hardayaperkasa Consultants
Policy and Procedure Activity $3.593 million	Public Private Partnership (PPP)	• Development of a practical toolkit with templates and model documents for procurement planning and project preparation • GAP analysis • Perka assistance • Piloting and standard bidding documents (SBD) establishment.	• Senior Adviser to the PPP Sub-Activity, Dr. Azadeh Kopp-Moini.

Activities	Sub-Activities	Detailed Activities	Implementing Organization
	Sustainable Public Procurement (SPP)	• Establishment of SPP Steering Group • Development of terms of reference for legal and policy consultants • Assessment Phase for SPP (Discovery Phase) which consist of: o Status assessments o Identification of policy priorities o Review of the legislative framework research study o Market readiness analysis	• KPMG

The Procurement Professionalization Activity consists of four parts. The first is the **Procurement Skills Training and Mentoring**, which involves training up to 500 procurement professionals in two skill areas: procurement skills and mentoring skills. Procurement skills training supports the development of skillful individual full-time procurement staff, while the mentoring skills training supports better management of the PSU organizations. The procurement skills training contains structured curricula and training materials jointly developed with LKPP at three levels; basic, intermediate, and advanced. Overall, the training comprises the following 18 modules:

1. Applying basic procurement principles
2. Planning simple procurement
3. Developing solicitation documentation
4. Receiving and evaluating bids
5. Managing procurement documentation, records and contract files
6. PMIS and framework agreement
7. Planning and developing complex procurement
8. How to develop cost estimates and why
9. How to calculate TCO and why
10. How to develop and interpret specifications
11. How to select appropriate contracting models
12. How to implement and manage contracts
13. Planning and implementing strategic procurement
14. Undertaking framework contracting
15. Identifying and managing risk in complex procurements
16. Managing strategic and complex contracts
17. Developing and conducting bid evaluations for large/complex procurement
18. Fraud schemes and indicators

In order to complete each training level, trainees have to attend six training modules. It is understood that completing all basic and intermediate level training modules (modules 1-12) will equip PSU staff with the competencies necessary to be a procurement professional. The advanced training (modules 13–18) consists of more tailored modules that supplement the basic and intermediate skills. The procurement skills training covers various competencies aimed at improving procurement professionals' ability to conduct procurements according to government guidelines, ensuring the best value for the government.

The second component of procurement professionalization is the **Organizational Development Training and Mentoring** Sub-Activity. This sub-activity covers, broadly speaking, development support and monitoring of organizational improvement. More specifically, this component includes mentoring in how to implement monitoring of indicators based on data on tenders and tender outcomes; training and support in using the Maturity Model—a set of indicators developed to track institutional maturity for PSUs; CoE training and mentoring; and technical assistance and mentoring on establishment of permanent PSUs.

The Institutional Development Training (IDT) develops the organizational skills of staff and consists of the following modules: 1) Performance Measurement and Management (Basic); 2) Customer Relations/Stakeholders (Basic); 3) Leadership and Leading Change (Basic); 4) Performance Measurement and Management (Intermediate); 5) Customer Relations/Stakeholders (Intermediate); 6) Risk Management (Basic); 7) Project Management (Basic); 8) Leadership and Leading Change (Intermediate); 9) Procurement Management (Basic); 10) Procurement Management (Intermediate); 11) Leadership and Change Management (Advanced); 12) Project Management (Intermediate).

The organizational skills training is meant to complement the procurement skills training, and is also delivered at two levels (basic and intermediate), each consisting of six modules. The competencies covered in the organizational skills training are required for high performance in roles across a government institution and provide the basis for core business processes required within an institution. Both types of training are also intended for non-PSU staff involved in budgeting planning, procurement, and contract management to ensure that actors along the procurement chain, who are outside the PSU, have skills and knowledge that are aligned with those of the procurement professionals.

The procurement Performance Measurement and Management (PMM) consists of introducing a system and developing managerial practices to track a quantitative set of indicators on procurement performance, taking advantage of electronic data, when available, from the national system for e-procurement and stored in the LPSE.

Separately, the procurement Maturity Model provides a comprehensive set of organizational competency indicators not just as a tool for assessing current organizational competency, but also a roadmap for improving organizational competency and performance along these metrics, with detailed descriptions for five maturity level ratings for each of the sub-sub-indicators.

Within the Maturity Model, there exist approximately 20 sub-indicators and a set of standards and programming by which PSUs can become Centers of Excellence (CoEs). With the goal of facilitating the evolution of the role and mindset of PSUs from compliance-based evaluation activities (as outlined in Peraturan Presiden 54 (2010)), the CoE initiative intends to support the

development of more proactive PSUs as facilitators to improve the performance of the procurement organization, the objectives of the CoE standards and programming, developed by PricewaterhouseCoopers (PwC), include that the PSUs:

- Develop significant advancement of capabilities and knowledge in procurement envisaged to support organizational maturity enhancement.
- Share knowledge, information, and skills.
- Promote good procurement practice for a more effective procurement organization.
- Become advisors and stewards who can lead the procurement process across the value chain.
- Develop relationships and build networks with other procurement units across bodies and departments to strengthen procurement capability regionally and nationwide.
- Establish PSUs as centers of repute in the wider community that will serve as places of interaction between higher education institutions, governments, industry, and the public sector in general.

Another component of this sub-activity is the training of auditors on how to conduct procurement audits so as to increase the capacity for accurate procurement oversight. This project component is still being designed. An institutional and staff mentoring system is also being established to provide PSUs and individual staff with on-site support from experienced mentors tailored to specific needs, particularly touching on the competencies acquired through the procurement skills or organizational skills training.

The third sub-activity is the **Development and Use of Framework Agreements** which entails advisory services for Framework Agreements as well as the establishment of framework agreements at both the local and national level. The implementation program for the Framework Contracting Program includes the delivery of a 2 year pilot program (Pilot Program) that is intended to:

1) Establish and implement an initial suite of Framework Agreements for selected goods and/or services using the Framework Contracting procedures and templates that have been developed;

2) Test and validate the Framework Contracting procedures and templates to ensure that they are appropriate for the GoI, are robust and are effective;

3) Transfer knowledge and skills in the establishment and management of Framework Agreements to GoI staff while ensuring the participation of female staffs;

4) Educate PSU's regarding the Framework Contracting process and how Framework Contracts are used;

5) Communicate and socialize the use of Framework Contracting with the more diverse supplier industry for the selected commodities to ensure they understand the Framework Contracting process, the proposed approach and the benefits to them;

6) Demonstrate the benefits that can be delivered through Framework Contracting.

Through activities components number 1 to 4, the capacity building where inclusively designed as part of technical advisory and support to procuring entities at national and local level. The only additional specific capacity building was added in responding to the release of new Perka (Head of LKPP regulation) number 6 Year 2016. The project added socialization of new Perka to pilot PSUs as additional activity.

Through the fourth sub-activity, a **Procurement Management Information System** is being developed to store data on procurements for the purpose of record-keeping and analysis. The PMIS is intended to collect data on procurement processing, budgeting, and contract management. All PMIS Applications, contracted by MCA-I, are used to develop an end-to-end system, tightly aligned with Perka, for the management of all processes associated with Catalog Contracts and e-catalogs. This is referred to as the Catalog Management System. Its use is determined by the Pilot Program for Catalog Contracting, National LKPP Strategy & e-catalog Roadmap

In line with this, the PMIS Applications Systems includes a i) Catalog Management System encompassing the e-catalog (Local and National), the Pre-catalog and Post Catalog Systems, ii) the Data Warehouse and Business Intelligence project (including the Integrity & Fraud Filters System) and iii) the LPSE Cloud.

A key input to the PMIS will be the application of the United Nations Procurement Classification System, to categorize procurements on multiple dimensions. Another part of the PMIS Sub-Activity is the establishment of and capacity building for a catalog purchasing system, commonly known as an e-catalog system. The e-catalog system is intended to ease the administrative burden and transaction costs related to the purchasing of routine commercial products and services. An e-catalog system is an electronic information system that contains a list of technical specifications and prices of certain goods and services from various suppliers. This is designed to be linked with the development of procurement procedures and standard bidding documents for framework contracting. The e-catalog platform in conjunction with the standardized framework contracts seeks to improve the efficiency and effectiveness of procuring goods and/or services that are expected to be required on a recurring basis over a period of time. PSUs can only use sectoral (local) e-catalogs where the framework agreement has been made between the local government (SKPD) and the supplier. Meanwhile, any PSU can use an e-catalog where the framework agreement has been made by a Ministry/ Institution with suppliers to provide Goods/Services required by several Ministry/ Institution/ Regional/ Agency. Finally, PSUs can also use the e-catalog even when no framework agreement exists.

The **Policy and Procedure Activity** consists of two parts. The first part involves the development of policies and procedures around **Public-Private Partnerships** (PPPs). This initially included development of a practical toolkit with templates and model documents for procurement planning and project preparation. Indeed, in the initial implementation of the PPP component, the design was to assist GCA and LKPP to develop a Bidding Document that would lead to a Model Bidding Document to a respective sector. In the process of pilot implementation, the lesson learned is that the level of project preparation was considered not sufficient to launch a transaction phase. According to MCA-I's 2016 M&E Plan the following indicators will be used to assess this sub-activity:

- Output: Number of standard bidding documents produced for Public Private Partnership (PPP) pilot project approved by MCA and submitted to LKPP
- Output: Number of LKPP and Government Contracting Authority (GCA) staff trained on PPPs
- Outcome: Number of PPP agreements awarded using the standard bidding documents prepared by the PM Project

The second part of the Policy and Procedure Activity previously consisted of the development of a sustainable procurement National Action Plan to incorporate the concepts of environmental and social sustainability into government contracts. However, due to a shift in counterparts and priorities, the **Sustainable Public Procurement** (SPP) component has been re-scoped and some of the budget shifted to the PPP work. Indeed, the initial design for SPP involved that the Compact will support the development and implementation of national SPP policies that consisted of 3 Phases: (1) Assessment Phase (Discovery Phase), which consist of status assessments, identification of policy priorities, review of the legislative framework, and market readiness analysis. (2) Strategic Planning Phase, the development of national SPP policy including priorities, capacity building and training, and (3) Implementation Phase, which include the implementation in priority sectors/pilots, market engagement, and Procurement Cycle Management.

In the implementation of SPP component, studies have been conducted related to SPP component: Market Research Study of SPP which aiming inform the development of SPP policy and associated implementation planning by providing a 'snap-shot' of SPP practices in place across Indonesia today. It tries to identify the key gaps in SPP readiness, the leading areas and sectors and the percentage of the Government of Indonesia (GoI)'s spend that could be influenced by SPP. The report also discusses the supply side by assessing the possible impact on the market if SPP was introduced today in Indonesia. In addition Policy and Regulatory Review has an objective to provide more detailed and accurate knowledge of the existing regulations with regards to SPP implementation, to get a clearer picture of existing regulations and possible drivers and barriers for the implementation of SPP.

Due to the development of this activity, it has been decided to re-scope the SPP component to only complete the Discovery Phase. In order to achieve that objective, a consulting firm has procured to conduct Consolidation of Findings and Develop a Final Report on Sustainable Public Procurement Discovery Phase. This activity will also involve conducting analyses on the regional and domestic markets for sustainable products, and assessing the ability of GoI and LKPP to perform sustainable procurement across the GoI, as well as monitoring, measuring, and reporting on sustainable procurement and environmental procurement progress and outcomes.

There is also a **small gender component linked to the PM Project but implemented by the MCA-I Social and Gender team**, focused on training and supporting female entrepreneurs and procurement professionals to promote a more gender-equitable procurement system across Indonesia. The interventions include a capacity-building training program for women entrepreneurs that aims to equip them with the knowledge, networking, and skills required to

increase their access to economic opportunities in government procurement. Another intervention involves the creation of the Forum for Women Procurement Specialists in Indonesia (FP4I), which serves as a forum for women procurement specialists in Indonesia to strengthen their network across PSUs in order to support career development; build their capacities as procurement professionals; and increase the number of women in the profession, especially in leadership positions.

The rest of the section provides an overview of the project logic for the relevant part of the compact and the interventions evaluated. Section 2.1.1 provides an overview of the project logic at the compact Level as originally conceived in the MCC monitoring and evaluation (M&E) plan. Section 2.1.2 provides a description of the project participants, Section 2.1.3 describes the geographic coverage of the project, and Section 2.1.4 provides a summary of project implementation to date.

2.1 Project Logic

As noted above, the intent of the project activities is to encourage better assessment of the services and goods needed, greater competition, services and goods procured at lower cost, higher-quality products, and reduced procurement and delivery time. It is hoped that these improvements in the procurement process will result in more efficient procurement of goods and services that are critical to Indonesia's economic growth (e.g. infrastructure), while also leading to budgetary savings that can be applied to other productive investments, leading to greater economic growth.

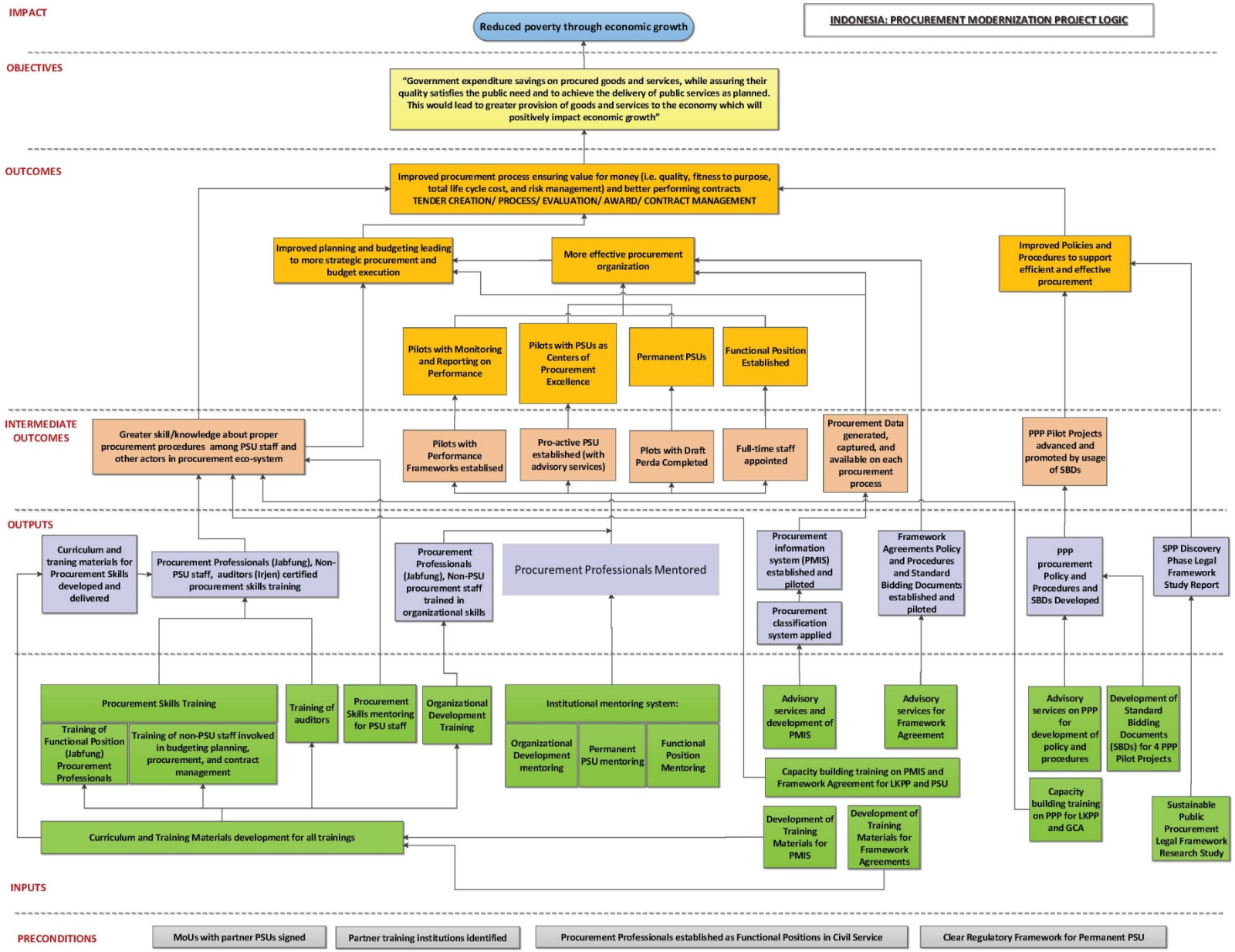
2.1.1 Overview of the Project Logic at the Compact Level

Expected ***objectives*** of the project as stated in the project logic are: "government expenditure savings on procured goods and services, while assuring their quality satisfies the public need and to achieve the delivery of public services as planned." The project logic depicts a causal path leading from the activities associated with the ***inputs*** described above (Procurement Professionalization Activity, PMIS, Policy and Procedure Activity). The inputs are designed to result in associated outputs outlined in Table 2.

Table 2. PM Project Inputs and Associated Outputs

Input	Outputs
Procurement Professionalization Activity	• Curriculum and training materials for procurement skills developed and delivered • Procurement professionals (Jabfung), non-PSU staff, auditors (Irjen) certified in procurement skills training • Procurement professionals (Jabfung), non-PSU procurement staff trained in organizational skills • Procurement professionals mentored
	• PMIS established and piloted • Procurement classification system applied • Framework agreements policy and procedures and standard bidding documents (SBDs) established and piloted
Activity Policy and Procedure Activity	• PPP procurement policy and procedures and SBDs Developed • SPP discovery phase legal framework study report

Figure 1. Project Logic



If the project logic is operationalized as planned, it is anticipated that the defined outputs outlined above will lead to the following set of ***intermediate outcomes***.

The PM Project anticipates the procurement training will result in:

Greater skill/knowledge about proper procurement procedures among PSU staff and other actors in the procurement ecosystem

The aim of the mentoring on organizational skills and change is to spur the following outcomes in PSUs based on their improved understanding of what changes will improve the functioning of the PSUs:

- Pilot PSUs with performance frameworks established
- Proactive PSUs established (with advisory services)
- Pilots with draft Peraturan Daerah (framework for permanency) completed
- Full-time staff appointed.

The project anticipates that creating a PMIS will result in: Procurement data generated, captured, and available on each procurement process.

Finally, the objective of developing policies and procedures for PPPs is to increase the procurement of PPPs and thus promote infrastructure development and advance service delivery.

The expected downstream effect of the project inputs, outputs, and intermediate outcomes is a set of final ***outcomes*** that support the realization of the overall PM Project goals. These PM Project final outcomes are detailed below.

The project logic states that improved staff skills lead to:

- Improved procurement process ensuring value for money (e.g., quality, fitness for purpose, total lifecycle cost, and risk management) and better-performing contracts
- Improved planning and budgeting leading to more strategic procurement and budget execution

The project anticipates that the intended organizational changes, supported by better data and performance monitoring from the PMIS, will result in the following that will improve the overall functioning of PSUs:

- More effective procurement organization
- Pilot PSUs with monitoring and reporting on performance
- Pilots with PSUs as Centers of Procurement Excellence
- Permanent PSUs established
- Functional positions established

Finally, the development of policies and procedures around PPPs will lead to overall: Improved policies and procedures to support efficient and effective procurement

2.1.2 Project Participants

As outlined above, the PM Project was implemented in two phases, which differed in timing and somewhat in content, as described later in this section of the report. The project participants are selected PSUs who receive organizational and skills training and their respective staff members. Below we describe how the PSUs and PSU staff were selected for participation.

PSU-Level Selection

The project chose participating PSUs in both phases through a process of application, pre-selection of a smaller group of competitive candidates from the applications (shortlisting), and final selection through interviews/site visits of those who were shortlisted. Twenty-nine PSUs were selected for Phase 1, and 16 PSUs (including the LKPP which was later excluded due to legal constraints) were selected for Phase 2, representing a broad geography and different levels of government.

In Phase 1, the first step in the process was to solicit expressions of interest in the program at a conference for PSUs. At the conference, a short questionnaire was fielded to PSUs that were interested in the program, and just under 40 PSUs were shortlisted from among the respondents for the program. Site visits were scheduled, which helped further narrow down to 29 the PSUs that were selected overall, on the basis of expressed commitment to reform, response to questionnaires, site visits, and other characteristics recorded in a Commitment Scorecard from the questionnaire responses, as well as on the basis of institutional and geographic diversity. The elements for eligibility in the Commitment Scorecard were:

- Willingness to commit to the main goals of the PM Project
- Willingness to share data with LKPP
- Willingness to use e-procurement and an e-catalog
- Interest in establishing permanent and independent status of the PSU and in establishing permanent functional procurement positions
- Maturity of the PSU (e.g., year of establishment, legal basis for the establishment of the PSU, degree of permanence, independence)
- Organizational structure (number of staff and their positions, whether they were full-time personnel or on temporary assignment)
- Diversity of volume, type, and value of procurement
- Presence and use of the LPSE
- Presence of one to two years of historical data
- Level of implementation of procurement regulations

Overall institutional capacity

In Phase 2, the PM Project first gathered expressions of interest via responses received on the LKPP website after making a general announcement to all PSUs across Indonesia. Among the more than 40 PSUs that applied, 22 were shortlisted using a set of evaluation criteria. The shortlisted PSUs were invited to interview at a conference in January 2016. An additional four PSUs, primarily ministries, were added to the shortlist for strategic reasons. The rationale behind the pre-selection of the additional strategic PSUs was to have a greater effect by

ensuring the participation of larger, more influential PSUs. Based on the interviews of the shortlisted PSUs and ministries, 16 were invited to participate in the project. The evaluation criteria used to rate interviewing PSUs included:

- Institutional permanency
- Staffing
- Impact on economic development
- Total PSU procurement spending
- Policy influence
- Proximity to Jakarta/other pilots

Leadership commitment

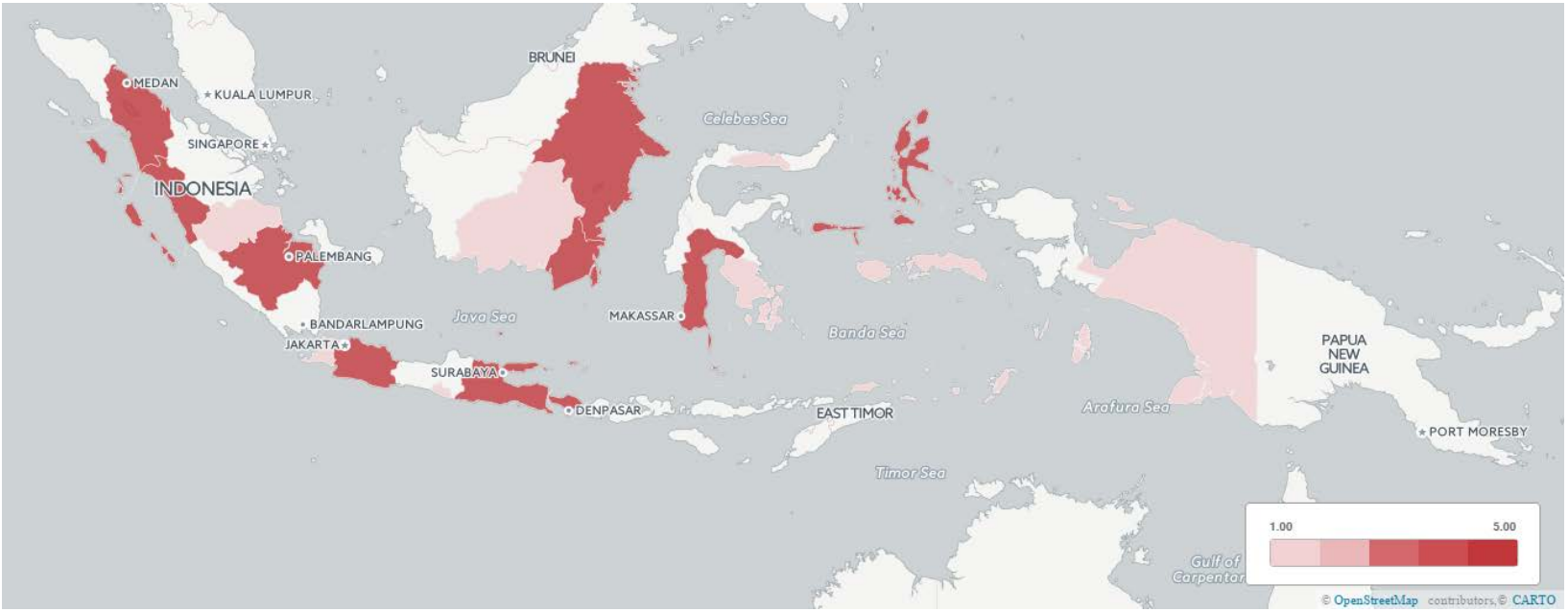
Individual Staff-Level Selection

While the PM Project provided staffing status criteria and commitment requirements for selection of trainees, it should be noted that it was senior PSU staff, typically managers, who provided final nominations of personnel to participate in training and mentoring programs, rather than the PM Project itself. While some PSUs' senior staff may have had a criteria-based system for final nominations, the selection of individual participants was not guided by any standardized, cross-PSU, quantifiable eligibility criteria (other than achievement or nomination to full time status and becoming a functional position). The participants that attended the trainings included staff of PSUs and related SKPDs (for non-PSU pools of trainees). In some instances, PSU staff did not necessarily complete the full training course, as senior PSU staff sent different staff to attend different modules of the trainings. . MCA-I is closely tracking the rates of completion and will strive to achieve the 500 trainee target. This will involve ensuring that trainees complete all required modules at some point, especially if they did not complete the modules sequentially during a single round of training.

2.1.3 Geographic Coverage

The PM Project is being implemented in a geographically diverse set of PSUs, with the aim of establishing models of best practices across the country. A key objective of the PSU selection process was to ensure that geographical diversity was achieved with representation from each of the major islands and regions (Sumatara, Kalimantan, Java, Sulawesi, Papua, Maluku, NTT, and NTB). A map of the geographical distribution of the sites sampled for the evaluation study is shown in Figure 2.

Figure 2. Geographic Distribution of Sampled PSU sites per province

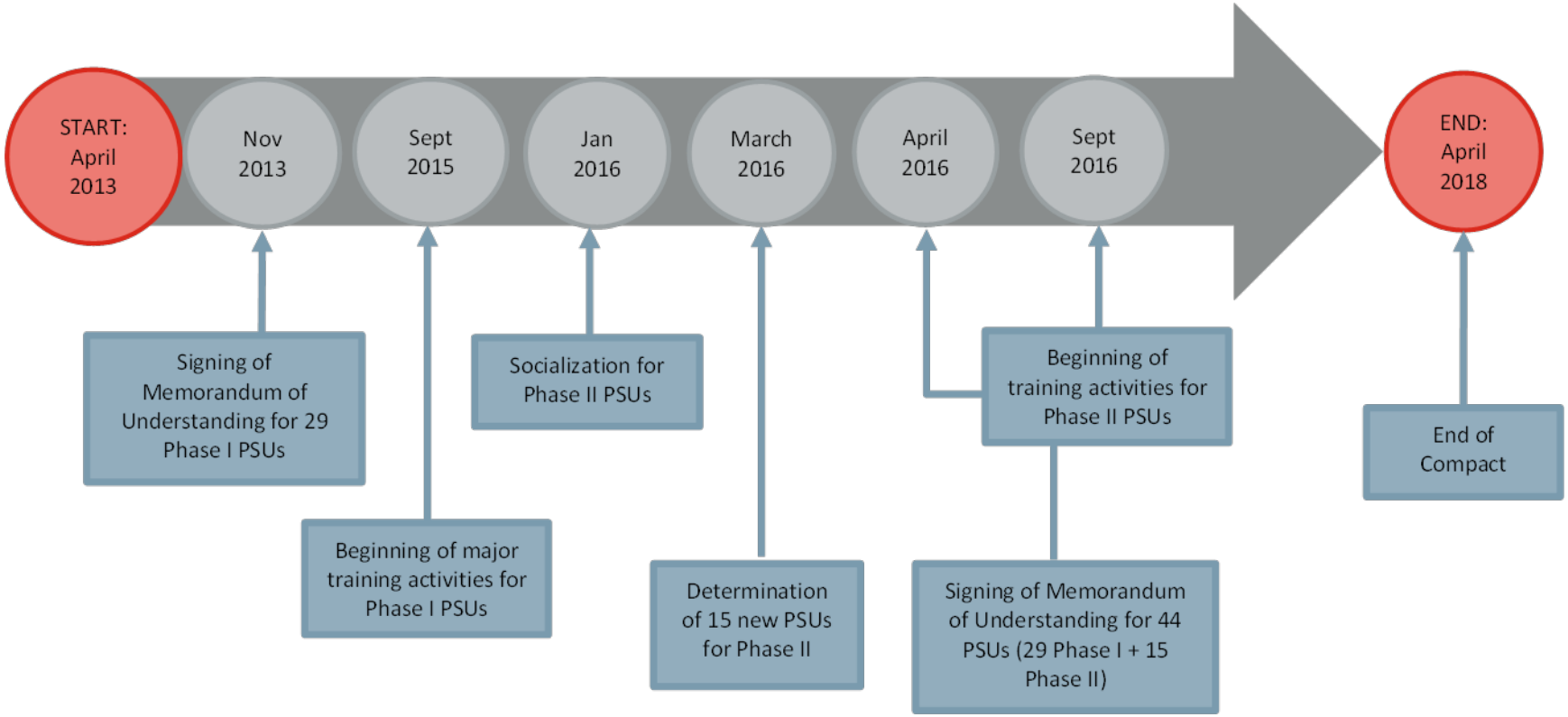


Note: The number of PSU sites sampled is illustrated by the color intensity.

2.1.4 Implementation Summary

This section describes the program activities as implemented to date. Implemented in two phases, with Phase 1 initiated with 29 PSUs in March 2015 and Phase 2 initiated with 16 PSUs in April 2016, the project seeks to reform Indonesian procurement in participating PSUs through a diverse set of activities. Abt drew information on implementation through project documents and interviews with key informants during an initial trip in January-February 2016 and during baseline data collection in July-August 2016. When the evaluation team was organizing the trip to Indonesia for baseline data collection and preparing data collection instruments before June 2016, MCA-I had not yet release the project implementation document for the PM Project or the Accelerated Project Implementation Plan. They were both released in July 11th 2016. As a result, we relied on descriptions of activities from key informants (including project implementers) to understand implementation plans and subsequent changes.

Figure 3. Procurement Modernization Project Timeline



The **procurement skills training and mentoring activities** are ongoing for Phase 1 and beginning for Phase 2. These trainings were conducted in person for more than 300 trainees in Phase 1 PSUs. Implementers have faced challenges implementing this component due to leadership changes at LKPP. The new counterparts wanted to make changes to the component, but given that there were 18 months of implementation remaining, it was not feasible for the PM Project to make adjustments.

Training for Phase 2 PSUs and auditors has not begun yet, in line with the project plan. The implementation plan for Phase 2 is very similar to that of Phase 1, with the specific expected change (at the time of baseline data collection) that the training will take place via a web-based platform rather than in person, to save on costs and improve scalability. Indeed, according to the most recent MCA-I project implementation document (released in July 11th 2016) computer based training (CBT) was positioned to potentially replace the logistics budget for the second phase. However, based on training implementation plans developed in October 2016 there are two types of training will be implemented in PST and IDT as follows: 1) Face to Face Training/FTF for all PST and the first three modules for IDT; 2) Computer Based Training (CBT) is starting from module 4 to 12 for IDT). Relative to the original implementation plan, the target number of trainees through the end of Phase 2 has been increased to 1,300. MCA-I is currently contracting for the development of an e-curriculum for a subset of these training modules. The purpose of the e-curriculum is to roll out modules to a larger number of trainees in Phase 2 PSUs. As noted above, senior PSU staff selected the individuals for training. These included both PSU staff and staff from other organizations, such as SKPDs affiliated with PSUs, in order to generate greater knowledge among individuals involved in different stages of the procurement lifecycle. In addition to the procurement skills training, trained individuals have participated in and will participate in a human resources development mentoring program to help them identify skill gaps and maintain skills acquired during the trainings. Mentors work individually with trainees on site approximately monthly.

Organizational development training and mentoring services are being provided by PwC and bTrust. The organizational development training and mentoring services have continued to be implemented as planned. At the point of baseline data collection, the project was just beginning to engage Phase 2 PSUs in these activities, including several large, strategic ministries. The basic approach, in concert with the procurement skills training, is to provide organizational training for staff, and to make sure that procurement professionals have functional (and so permanent) positions and that the PSUs are permanent units. They face some challenges in continuing with the planned activities as leadership rotates in LKPP and LKPP identifies different activities that they would like the project to engage in.

The procurement Performance Measurement and Management (PMM) was developed by the PSU staff with help from the organizational development mentors and introduces a standard set of 9 performance indicators and management practices for treatment PSUs covering timeliness, quality, efficiency, and service level of procurement operations.

While there is variation, the PMM indicators typically include the percentage of on-time procurements, the number of bidders, the cost-to-owner estimate ratio, the percentage of failed procurements, indicators of the quality of the outcome of procurements, and other measures. The procurement organization Maturity Model has been adopted in treatment PSUs (in both Phase 1 and Phase 2 PSUs), but with differing indicators and sub-indicators chosen by each

PSU (regardless of the Phase they belong to), making comparability of progress along these metrics difficult.

The Maturity Model is undergoing iterative development. It is in version 5. The PM Project worked with LKPP to expand the indicators to 60 indicators at five levels in 2015. Version 4 of the Maturity Model included 11 indicators in four domains (institutional, management, operational, and personnel), and five represents the highest level of competency ("innovative").

Finally, an objective of the organizational mentoring program is to help PSUs obtain permanent status so that they can hire functional, permanent staff and assert institutional authority. The PM Project provides mentoring and assistance with this diverse process, which varies depending on the level of government at which the PSU sits.

The **development and institution of the PMIS** is another activity of the MCC Indonesia PM Project. While some systems are in place to allow the recording of electronic tenders, such as e-procurement and SPSE, no comprehensive system or data warehouse currently exists. The PMIS will be a cloud-based system that integrates SiRUP (the general procurement planning system), SPSE (the tendering system), e-catalogs, contract management, and other MIS systems. The system envisioned would allow PSUs to enter and record information regarding the tender and performance of procurements, and would also allow them to view and analyze historical data through the use of a data warehouse. The new system will also include a fraud filter to identify potentially illegal activities. As a cloud-based system, it will address the issue that PSUs have old IT systems, which constraints data access and reporting by PSUs. The cloud-based system should improve data completeness because PSUs will more easily be able to be report data. The cloud will also allow access to reports from the SIJAFUNG (Information System for Procurement Functional Position) where functional employees can add detailed descriptions of their activities. It has to be clarified that the PM Project is not investing in the LPSE system, where PSUs enter data on tendering and performance. The PMIS investments are in the e-catalog, data warehouse, and pre-catalog (which relates to procuring framework contracts). The theory is that having a data warehouse that stores the LPSE data will expose data quality issues and opportunities for improvement in data collection and reporting.

The purpose of the **framework agreements and e-catalog activity** is to establish policies and procedures that will support the development of standardized agreements for repeat purchases and an e-catalog to support repeat purchases of standard items. Framework agreement work was a little slow to begin because it was difficult to get LKPP fully on board. Because of a declaration by the chairman of LKPP in 2014 that all work on local framework agreements was to be put on hold and all resources were to be focused on national framework agreements, the progress of establishing framework agreements has been delayed at the PSU level. The PM Project has successfully facilitated the signing of three national framework agreements[13].

The first basic e-catalog system was developed in November 2014 by LKPP. The PM Project has procured an e catalog system that is being implemented for the FA program at a local level. The PM Project is currently developing the e-catalog system, including fraud filters, and

[13] As of November 2016 (after baseline data was collected), 15 framework agreements had been signed, resulting from multiple framework procurements.

conducting live demos. The project's e-catalog system is supposed to replace the current one, but adoption may be a significant challenge. For the e-catalog, they are providing education on their proper use. One challenge they have faced with e-catalogs is that LKPP wants them to build the catalog as quickly as possible without starting with a spend analysis, as they are doing with the PSUs. They have also found that not all the data needed to do a thorough spend analysis are available in LPSE and SiRUP. One key informant reported divergent perspectives about e-catalogs within LKPP. On the one hand, e-catalogs are of strategic importance to LKPP and seen as the answer to many problems, including budget absorption. The Peraturan Presiden states that if a good exists in the e-catalog, then it should be purchased there first, before tendering. On the other hand, some people in LKPP are resistant to an e-catalog system because they see it as representing the end of their job or because it is a system that was developed outside of Indonesia.

The **PPP and SPP activities** are designed to support public-private partnerships and sustainable public procurement, respectively. The PPP component to enhance policy and procedures on PPP procurement (e.g., developing bidding documents) is ongoing. LKPP has already completed the Gap Analysis on PPP. Similarly, in August 2015, LKPP with the assistance of MCA-I completed the formulation and development of LKPP Perka 19/2015 on PPP Procurement to embed a 2-Stage Procurement model as a new procurement tool. At the time baseline data was collected, the PM Project was also developing standard bidding documents for four pilot PPP projects[14]. They have faced some challenges because LKPP does not have staff with expertise in PPP and because several agencies are involved in PPPs, according to several key informants. Different components of PPPs fall under BAPPENAS, LKPP, and the Ministry of Finance, which is confusing for vendors and makes implementation difficult. The PM Project is working only with LKPP, which may limit the project's ability to influence change in PPPs. Another key informant noted that LKPP faces challenges positioning itself in the broader institutional and political spheres dealing with PPP, such as the Ministry of Finance and BAPPENAS.

An SPP report is being developed, which is a policy analysis of the issues surrounding sustainable public procurement. About 18 months ago, the SPP activity has been re-scoped and the budget was reduced from $2.6 million to about $800,000. The primary activity regarding SPP will be a research paper. Key informants raised several issues that contributed to this change. One is that the project counterpart at LKPP changed and the new counterpart did not see the activity as a priority or clearly within LKPP's role. Another is that the performance of the SPP contract was poor initially, so they had to hire a new contractor. Another key informant said that this happened in part because development partners can be intimidating to small ministries.

2.2 Cost-Benefit Analysis and Beneficiary Analysis

MCC performed no cost-benefit analysis or beneficiary analysis for this project.

[14] 3 Pilots have been signed by February 2017 (which included MoUs and Cooperation Agreements): Water Bekasi Project, Waste to Energy Plot and Street Lighting PPP as a Pilot. In March, 2017 the 4th Pilot was scheduled to be signed as well. Model Bidding Documents will be as well developed for a 5th and 6th sector in the social sector.

3. Literature Review

3.1 Summary of the Existing Evidence

This literature review focuses on the status of procurement reforms in Indonesia and, where possible, the evidence available on the impact of these reforms on key outcomes.

Recent public expenditure reviews at both the national and subnational level conducted by the World Bank concluded that Indonesia's main challenge in the years ahead was no longer to transfer more resources to local governments but to ensure that such resources will be spent effectively and efficiently (World Bank 2007: xvi; World Bank 2012: 2-4). The last comprehensive national public expenditure review, conducted in 2007, recommended the introduction of performance-based budgeting systems, improved linkages between budgeting and development planning, and a stronger procurement and auditing system to increase transparency and predictability in public expenditure processes (World Bank 2007: xxiii).

Institutional-organizational reforms and political and fiscal decentralization have formally increased transparency and accountability while creating more competitive relations between political elites. Incumbent turnover in Indonesian elections is comparatively high in both executive and legislative elections, especially at the local level. This theoretically bodes well for procurement reform, since it may lead to the realization among elites that the electorate can vote them out of office if they do not live up to reform promises. On the other hand, the newly democratic environment has created new challenges for public procurement reform. Most importantly, democratization and decentralization have deregulated the highly structured New Order patronage networks, and introduced new costs for politicians (McLeod 2000: 99-112). Therefore, politicians have incentives to engage in collusive practices, either to amass campaign funds prior to elections or to pay back campaign donors after the elections (Silitonga et al. 2015). Recent studies show this has led to new dynamics in public procurement collusion (Van Klinken and Aspinall 2012).

The following contradictory assessments of Indonesia's procurement environment are emblematic of these local complexities. In 2007, the GoI with the assistance of OECD conducted an evaluation of the country's legislative, regulatory, and institutional frameworks; management capacity; procurement operations; and market practices; as well as the integrity and transparency of the formal public procurement system. These were compared with international procurement standards. The assessment revealed that the Indonesian public procurement system matched with more than 60 percent of the OECD baseline indicators, leading the organization to conclude that "public procurement risks in Indonesia are currently perceived to be average" (OECD/DAC 2007: 20-24).

A similar assessment conducted in 2010 found that, overall, procurement reform had been successful in establishing formal mechanisms for tender and bidding processes and in recruiting qualified staff to auxiliary bodies such as the LKPP. At the same time, the report concluded that the sustainability of the current reform drive in the procurement sector was "moderate" (Attström and Rusman 2010: vi). The authors also found that political imperatives rather than principles of efficiency and transparency were defining procurement-related government documents (Attström and Rusman 2010: 6).

In fact, procurement-related corruption and collusion remain endemic in Indonesia and continue to be one of the main reasons for the leakage of public funds and the implementation of development projects of inferior quality. In 2008 and 2009, for instance, accusations of unfair procurement tenders topped the list of cases reported to the Commission for the Supervision of Business Competition (*Komisi Pengawas Persaingan Usaha (*KPPU)). In 2009, the last year such data were collected, 84% of all cases reported to the KPPU were related to unfair procurement tenders, compared to 79% in 2008 (*The Jakarta Post* 2009). In 2007, almost 90% of all corruption cases were related to public procurement of goods and services. Anecdotal evidence supports the findings of the National Development Planning Agency that only around 30-40% of all government institutions are conducting procurement as required under the regulations (Rahardjo 2007: 73). Similarly, 94% of the 2,100 procurement-related complaints the Corruption Eradication Commission (*Komisi Pemberantasan Korupsi*) received in 2009 referred to failures of holding open tenders. The remaining 6% of cases were about schemes, including price mark-ups. Losses to the state due to corruption and collusion amounted to around 35% of the total value of procurement projects scrutinized by the Corruption Eradication Commission between 2005 and 2009, according to an official government estimate (*The Jakarta Post* 2009). A recent study showed that because of Indonesia's weak procurement institutions, commercial diplomats[15] from the European Union rely heavily on informal procedures and personal networks when lobbying for public procurement contracts (Bondaruk and Ruël 2012).

Likewise, the available literature suggests that corruption in the construction sector remains endemic, with the most recent available figures estimating a loss of $300 million to $1.4 billion due to bribe payments in 2004 alone (van Klinken and Aspinall 2012: 144-69). The dynamics in the construction industry testify to the fact that the legacies of Suharto's patronage system and the forces that compromise good governance in public procurement in contemporary Indonesia have survived the post-1998 reform initiatives. In addition, recent studies point out that procurement reforms have, ironically, lowered the quality of public work contracts and the ensuing infrastructure projects. Legal requirements for Indonesian government officials to award contracts to the cheapest bidder have forced many contractors to submit unrealistic project proposals, leading to project delays or the outright failure to complete infrastructure projects (Larasati 2011: i).

In addition to these assessments of the public procurement situation at the national level, a literature has emerged that describes public procurement dynamics at the subnational level. Within less than a decade after the collapse of the New Order regime in 1998, Indonesia became one of the world's most decentralized countries. Fiscally, its provinces and districts are some of the world's strongest. This has created new opportunities but also new challenges for procurement reform at the local level. To the best of our knowledge, no studies analyze the subnational procurement environment in a comprehensive and systematic fashion. However, several studies suggest that there is considerable variation in both the implementation and the outcome of public procurement reform in the archipelago state's administrative layers (Rahman et al. 2012a; b; c; d).

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[15] Commercial diplomacy is an activity conducted by state representatives with diplomatic status in view of business promotion between a home and a host country. It aims at encouraging business development through a series of business promotion and facilitation activities.

Findings from these studies suggest that there is considerable variance in procurement spending, or the value of contracts awarded, both between and within different government layers (Rahman et al. 2012a). For instance, average annual procurement spending at the district level has decreased since 2007, while it has increased at the provincial level over the same period. Overall, annual procurement spending is also higher at the provincial level than at the district level. At the same time, provinces and districts in the outer islands of Indonesia spend more on procurement than provinces and districts in Bali and Java (Rahman et al. 2012b: 4). Still, there are provinces where procurement spending has decreased in both relative and absolute terms between 2007 and 2010 (Rahman et al. 2012e: 1-43). Studies have suggested that the higher aggregate procurement spending in Indonesia's outer islands is a consequence of administrative fragmentation that occurs predominantly outside Java (Kimura 2013) and in resource-rich areas (Fitrani et al. 2005: 57-79). This "blossoming of jurisdictions" (*pemekaran wilayah*), which has led to an increase from 27 to 33 provinces and from 341 to 497 districts over the last decade, is usually accompanied by a construction boom since there is a need for new government infrastructure.

Furthermore, a picture emerges from the existing literature that there is considerable local variance with regard to the adoption of the various procurement reform initiatives described above. For instance, the percentage of tenders using the e-procurement system out of the total number of tenders is low in almost all provinces and districts. The low implementation rate is especially pronounced in the outer islands. Nurmandi (2013) found that during the 2012 fiscal year only around 10% of national government institutions and 21% of local governments used e-procurement for public tenders. However, e-procurement was not officially mandated until Peraturan Presiden No. 4 in 2015. More recently, a great number of provinces and districts have endorsed the government-promoted LPSE, making e-procurement the most widely adopted procurement reform initiative (Huda and Yunas 2016).

The few localities that used e-procurement most often announced tenders only through their e-procurement system. A small number of provincial and district governments have adopted full e-procurement. This means that they accept online bids in addition to announcing tenders (Rahman et al. 2012b: 7-8). A recent paper argued that the low adoption of e-procurement may not be the result of low government capacity but may instead result from the lobbying activities of entrenched elites that are at risk of losing out if e-procurement programs are adopted (Nugroho 2014).

Several studies have been published in recent years on the impact e-procurement had in jurisdictions where such programs *were* adopted. A comprehensive study of Indonesian jurisdictions found no evidence that the use of e-procurement lowered the prices paid by governments. However, the quality of companies bidding for contracts increased (Lewis-Faupel et al. 2014). Other studies have been equally critical about the impact e-procurement has had in Indonesian jurisdictions. For instance, in his study of e-procurement programs in four districts in East Java Province (Jember, Kediri, Sampang, and Surabaya) Hidayat (2015) found that such initiatives had not improved the efficacy and efficiency of procurement processes due to the contentious relationship between PSUs and end-users of e-procurement services. E-procurement reforms have also not significantly improved the perception of service delivery in Kutai Kartanegara district in East Borneo Province, according to Mutiarin (2014). Nurmandi and Kim (2015) attribute the checkered outcome of e-procurement initiatives to tensions between

national and local administrative layers in their recent study of e-procurement in three municipalities in Indonesia. On the other hand, a recent study showed that hospitals that used an e-catalog in the procurement process lowered their expenses for drugs significantly (Suliantoro et al. 2016).

Besides great variance in the adoption of e-procurement reforms, recent studies have also found considerable differences with regard to the adoption of other procurement reform initiatives. Most importantly, the aforementioned standardization of procurement regulations that has occurred at the national level since 1998 has not been adopted to a similar degree at the subnational level. At the time of writing, only one province and 27 district governments had adopted standard bidding documents, removed barriers for bidders, or crafted and implemented standard operating procedures (SOPs) for local PSUs (Rahman et al. 2012b: 11).

Local capacity-building in public procurement seems to occur in a more balanced manner, particularly with regard to general procurement training in preparation for procurement certification, and e-procurement training on how to operate and maintain the LPSE system. Consequently, the overall number of procurement-certified staff has greatly increased at both the provincial and district level across Indonesia (Rahman et al. 2012b: 12). Still, many subnational governments seem to lack a comprehensive strategy to increase the number of procurement-accredited staff (Rahman et al. 2012d: 9). Research also found that the absolute number of procurement accredited staff was lower on average in districts with decreasing procurement. However, these districts had a higher proportion of procurement-accredited staff compared to the overall number of bureaucrats than districts where procurement values were on the rise over the period examined in this research (Rahman et al. 2012f). Furthermore, provinces and districts also embraced organizational reform initiatives in an uneven manner. Procurement Service Units, for instance, had been adopted in 27% (9/33) of all provinces and 26% (130/497) of all districts at the time of writing (Rahman et al. 2012b: 9). The establishment of PSUs was slightly higher in districts with increasing procurement volumes (Rahman et al. 2012f). Finally—despite the considerable power that aforementioned political and fiscal decentralization initiatives have bestowed upon local government heads—governors, district heads and mayors were not really reform drivers in any of the localities examined in a recent study. When governors or district heads were replaced, the procurement reform initiatives continued in most cases (Rahman et al. 2012c: 6).

Furthermore, parliaments were rarely the driver of procurement reform initiatives. In addition, some studies found that local legislatures were relatively free from business interests, and also that service contracts were not awarded based on political alliances (Rahman et al. 2012c: 6). This finding warrants further scrutiny: previous studies on local procurement in both Indonesia and Western democracies showed how predatory business interests dominated parliaments in many localities and how this shaped the distribution of procurement packages (Zullo 2006: 273-81).

To summarize, the recent literature on procurement reform initiatives in Indonesia points to considerable variance in the adoption of procurement reforms both between and within administrative layers. The lack of a national procurement law, differences in leadership styles, and different levels of political will—in addition to tensions within the bureaucratic apparatus—have all been put forward in recent studies as potential explanations for the fragmented procurement reform landscape in Indonesia.

3.2 Evidence Gaps That the Current Evaluation Can Fill

A few recent studies examined the impact of public procurement reform initiatives in Indonesia. In addition to the aforementioned study by Huda (2016) on e-procurement, Lewis-Faupel et al. (2014) explored the effects of e-procurement adoption on procurement outcomes and concluded that e-procurement increased the number of bidders and lowered government expenses. Wibowo (2012) examined how the idea of "good governance" was adopted in procurement agencies in Indonesia as well as whether the exclusion of corrupt bidders has improved public procurement processes (Wibowo n.y.). Prabandani (2016) speculated how the weak standing of the MCA within Indonesia's legal framework has shaped public procurement reform, while Wibowo (n.y.) explained how administrative overlaps have undermined bid protest mechanisms in the public procurement system. Finally, Suliantoro (2016) evaluated the impact of e-catalogs on drug prices in Indonesia's health sector, as mentioned before. What all these works have in common is that they are narrowly focused on e-procurement and also include a limited range of procurement outcomes.

In other words, despite this extensive descriptive literature on public procurement in Indonesia, the most significant gap in the literature remains a rigorous impact study of the effects of broad-scope public procurement reform efforts on procurement outcomes in the country. Against this backdrop, the evaluation of the MCC PM Project will contribute to our understanding of the many procurement reform initiatives underway in Indonesia, as well as the broader organizational and systems contexts in which these reforms are embedded.

With regard to actual reform initiatives, studies reviewed above showed that the overall number of procurement-certified staff greatly increased across administrative layers. Nevertheless, many local bureaucracies lack a comprehensive strategy to increase the number of procurement-accredited staff. The PM Project evaluation may identify obstacles to such increases. At the same time, the evaluation may illuminate how procurement reforms have influenced LKPP staff in recent years. While the aforementioned studies concluded that the recruitment of qualified staff to the LKPP was successful, the data collected as part of the evaluation will allow a more in-depth examination of these claims. In addition, previous studies revealed great variations across Indonesian jurisdictions with regard to procurement contract issues. Interviews conducted with LKPP staff as part of the evaluation may identify the reasons for this variation.

Furthermore, as discussed above, the percentage of tenders using the e-procurement system of the total number of tenders remains low in almost all provinces and districts. The PM Project evaluation will explore the range of services that actually fall under e-procurement and investigate why only certain services are included. The literature review above also shows that only a small number of provincial and district governments have adopted full e-procurement. Our interviews are likely to reveal why the range of services offered under e-procurement varies considerably between jurisdictions.

Our interviews and surveys will provide an insider's perspective on whether e-procurement has been a success with regard to a clearly defined set of indicators. The evaluation will also allow us to understand better whether and why users are satisfied with the e-procurement system available in their jurisdiction. In addition, we may learn more about the practicability of e-procurement in a highly decentralized country such as Indonesia. The interviews may also

support assessing the efficiency and efficacy of e-procurement with regard to increasing competition; lowering corruption and collusion; and, ultimately, lowering prices for public procurement. Recent studies have also revealed that government units using e-catalogs were able to lower their procurement costs. Yet, at the same time, preliminary findings from interviews conducted by our study team in August 2016 revealed that the e-catalogs used in Indonesia are often incomplete and outdated when it comes to reflecting actual market prices for goods. In this context, the PM Project evaluation may shed light on reasons why e-cataloging is deemed a successful procurement reform measure in some jurisdictions but not others.

The evaluation report will also contribute to our understanding of the broader political context of procurement reforms in Indonesia. For instance, the OECD report mentioned above highlighted the reasonably well-developed institutional framework on which public procurement in Indonesia rests. At the same time, our interviews in August 2016 revealed a strong perception that corruption and bid rigging remain in public procurement. The evaluation report may add to our understanding of ways that official procurement regulations are implemented in practice. Furthermore, studies mentioned above claimed that political imperatives continue to influence procurement decisions. The surveys and interviews may illuminate the political conditions that shape procurement decisions on the ground. For instance, despite the considerable power that the aforementioned political and fiscal decentralization initiatives have bestowed upon local executive government heads, the latter were not really reform drivers in any localities examined in previous studies. Whether and why this is the case may be answered by this study. Findings from the study may also identify effective drivers that support local reform initiatives.

Another issue raised in several of the studies mentioned in the literature review was the considerable variance with which procurement reforms were adopted across Indonesian provinces and districts. For instance, there was considerable variance with regard to the adoption of bidding documents and SOPs. The interviews conducted with public procurement personnel as part of the PM Project evaluation may identify the conditions conducive to procurement reform initiatives. The same interviews may also provide an idea of how deeply rooted reform initiatives are in the political arena of a given jurisdiction. Studies mentioned above also revealed that the standardization of procurement regulations that has occurred at the national level since 1998 has not been adopted to a similar degree at the subnational level. The study may reveal changes in that trend under the MCC PM Project.

The Evaluation Report will also make use of a battery of questions focused on procurement-certified staff. At a basic level, the interviews will also provide fine-grained data on the characteristics of public procurement officials:

- What is their level of experience?
- What is the gender balance (number of male to female staff) in public procurement offices?
- What are the power dynamics between senior and junior officials within procurement units, and how do they shape procurement reform? Similarly, how do the relations between procurement service units and SKPDs influence procurement reform initiatives and actual procurement procedures?

- What vision does the leadership in local procurement offices have with regard to public procurement reform?
- What are the differences with regard to procurement-certified staff across Indonesian local jurisdictions?
- Why are certain jurisdictions able to increase the number of procurement-certified staff while other subnational governments are not?

How is procurement performance in a province or a district eventually assessed?

Evaluation activities will also explore whether recent reform initiatives have increased incentives for Indonesian bureaucrats to pursue a career in public procurement. Preliminary findings from our interviews conducted in August 2016 suggest that many bureaucrats have come to regard working in a public procurement as a viable career path. At the same time, the broader legal context in which procurement officials operate continues to be marred by inconsistencies and administrative overlaps. This creates risks for many well-meaning public procurement officials to be arrested for corruption. Preliminary findings from the interviews conducted so far suggest that the unclear legal environment is one of the greatest concerns to pursuing a career in public procurement.

The study design will investigate how well and broadly the PSU reforms are disseminated. The PM Project design has both active and passive mechanisms to encourage other PSUs to adopt practices promoted through the project. The more active component is the development of the Centers of Excellence. CoEs are intended to serve as exemplars of PSU operations that share best practices with other PSUs seeking to improve their operations. The CoEs initiate this through reciprocal site visits and peer-to-peer training and mentoring. The more passive component comprises gradual changes in professional expectations of the larger PSU community created by higher-functioning and better-performing PSUs that have benefited from participating in the PM Project.

4. Evaluation Design

This chapter provides an overview of our mixed-methods evaluation that seeks to establish evidence on the possible effects of an intervention designed to improve and modernize public procurement: effects on short-term outcomes such as cost savings, performance, and efficiency in the procurement process. Due to the timing of the evaluation, we will not be able to measure effects of the intervention on long-term outcomes such as economic growth; however, if the program is found to have strong effects on cost savings and procurement performance, a long-term effect on economic growth may be plausible.

4.1 Overview of Evaluation Design

To evaluate the MCC Indonesia Procurement Modernization project, which promotes best practices in procurement through human resource, organizational, and new policies and procedures development, we are using a mixed-methods approach to determine the effects of this multi-pronged approach. Our method includes:

1. A pre-post design with a comparison group for the qualitative in-depth interviews with PSU staff and associated SKPD staff for ***Phase 1 and Phase 2*** treated PSUs and the selected comparison PSUs (baseline for Phase 1 PSUs was retrospective) as well as key stakeholders.

2. A pre-post design with a comparison group (difference-in difference estimation) for the quantitative survey with staff at PSUs and their associated SKPDs for ***only Phase 2*** treated PSUs and the selected comparison PSUs (as Phase 1 PSUs have already received the treatment).

3. An interrupted time series (ITS) design with a comparison group for the administrative data collected through the LPSE focusing on tender-related outcomes ***only for Phase 2*** treated PSUs and the selected comparison PSUs. [16]

4. Cross-sectional monitoring data collected at the end of the project ***for both Phase 1 and Phase 2*** treated PSUs.

[16] Initially Phase 1 PSUs were also supposed to be part of the ITS analysis. However, we learned after the first draft of the Baseline Report was released that reliable SPSE data was only available for 2015 onwards. And most importantly, PSUs identifiers are only available for 2015 onwards. These facts limited our ability to perform a pre-post analysis for Phase 1 PSUs, since treatment started in 2015 and hence we would have no way to calculate pre-treatment trends as is required by the ITS methodology. If reliable pre 2015 SPSE data was available we would have been able to perform the ITS analysis for all Phase 1 treatment PSUs belonging to lower level government entities, since only those are identified in the SPSE data set, regardless of the year. The comparison Phase 1 PSUs would have been identified using matching methods. Matching methods would have been applied to data in the SPSE to match Phase 1 PSUs to comparison PSUs on the basis of level of government, volume of tenders, value of tenders, number of bidders, percentage of on-time procurements, time to procurement, and other pre 2015 tender-related measures.

Our mixed-methods approach uses the qualitative data to provide deeper insights into the quantitative results. Quantitative data will provide valuable information regarding direction, distribution, and magnitude of results, while qualitative data can provide an understanding of the nuance behind the statistical output. For example, the quantitative data may indicate that PSU staff show concern regarding their level of administrative and legal support, but the "why" and "in what way" will come from qualitative interviews. In addition, qualitative analyses may identify staff perceptions regarding best practices for proliferation and sustainability, but this feedback will need to be validated by objective measures available from the quantitative analyses.

4.2 Evaluation Questions

The evaluation questions test the project's theory of change and ensure that they cover the full scope of project activities and are important to the implementing organizations. As the PM Project is focused on organizational change, we organized the evaluation questions using the 5S model as the framework for evaluating organizational change.[17] This model is explained in greater depth in our qualitative approach as well as the design report. Research questions are categorized according to whether they relate to Superordinate Goals/Shared Values; Structure; Systems; Skills; Staffing; and Overall Evaluation Questions. Table 3 presents an overview of our evaluation design, linking key outcomes to each evaluation question according to the project logic model.

Table 3. Evaluation Design Linking Research Questions and Key Outcomes, Data Source, and Data Collection Method

Evaluation Question	Key Outcomes	Data Source	Data Collection Method
Structure Superordinate Goals/Shared Values			
a. Are there any issues related to the political economy (or other aspects) of the procurement system and its actors not addressed by the project that may have impacted the project's ability to achieve its intended results?	Political economy issues or other barriers to success of the project	High-level stakeholders	Qualitative interviews
b. Did the program result in a change in culture or shared values?	Perceptions of corruption and transparency	High-level stakeholders, PSU staff, SKPD staff	Qualitative interviews
2. Structure			
a. What types of organizational or operational changes are taking place at the PSU level?	Leadership and management, PSU permanency, staff permanency	High-level stakeholders, PSU staff, SKPD staff, LPSE	Qualitative interviews, quantitative surveys, administrative data
b. Have adopted the Maturity Model as an approach to supporting their organizational development goals?	Adoption of Maturity Model	PSU staff, project-generated monitoring data	Qualitative interviews, project-generated monitoring data

[17] Section 10.1 in the Annexes presents the updated research questions from the proposal (see Evaluation Design Report).

Evaluation Question	Key Outcomes	Data Source	Data Collection Method
3. Systems			
a. What types of procedural changes are taking place in the conduct of procurements?	Adherence to best practices in procurement	PSU staff, LPSE	Qualitative interviews, quantitative surveys, administrative data
b. What was the quality of policies and procedures developed by the project?	Quality of policies and procedures developed by the project	High-level stakeholders, PSU staff	Qualitative interviews
c. Are there changes in policies, procedures, or otherwise that could lead to quality improvements in ultimate procurement (contract) outcomes? How so?	Adherence to best practices in procurement related to quality improvements	High-level stakeholders, PSU staff, SKPD staff, LPSE	Qualitative interviews, quantitative surveys, administrative data
d. Are there changes in policies, procedures, or otherwise that could lead to savings (financial or total lifecycle) in government procurements? How so?	Adherence to best practices in procurement related to cost savings	High-level stakeholders, PSU staff, SKPD staff, LPSE	Qualitative interviews, quantitative surveys, administrative data
e. Are PSUs using e-catalog for standard purchases?	Use of e-catalog	High-level stakeholders, PSU staff, project-generated monitoring data	Qualitative interviews, quantitative surveys, project-generated monitoring data
f. Are PSUs using the PMIS?	Use of PMIS	High-level stakeholders, PSU staff, project-generated monitoring data	Qualitative interviews, quantitative surveys, project-generated monitoring data
g. What was the quality of PMIS?	Quality of PMIS	High-level stakeholders, PSU staff	Qualitative interviews, quantitative surveys
h. Has the PMIS contributed to changes in procurement planning or implementation?	Contribution of PMIS to changes in procurement planning or implementation	PSU staff	Qualitative interviews
i. Does the design of PMIS meet the needs of the PSUs and other procurement actors?	Quality of design of PMIS relative to needs of PSUs and other procurement actors	High-level stakeholders, PSU staff	Qualitative interviews
j. Have PSUs developed their own framework contracts?	Development of framework contracts	High-level stakeholders, PSU staff	Qualitative interviews, quantitative surveys
k. Have PPPs been conducted in accordance with the policies and procedures developed by the project?	Development of PPPs and conformity to best practices recommended by the project	Case study	Qualitative methods
4. Skills			
a. Are the skills/knowledge emphasized in the training spreading within the PSU? How so?	Skills and knowledge of procurement	PSU staff, SKPD staff	Qualitative interviews, quantitative surveys
b. What was the quality of training and mentoring?	Quality of training and mentoring	High-level stakeholders, PSU staff	Qualitative interviews, quantitative surveys

Evaluation Question	Key Outcomes	Data Source	Data Collection Method
c. Has the procurement knowledge and skill of trainees improved?	Skills and knowledge of procurement	PSU staff, project-generated monitoring data, LPSE	Qualitative interviews, quantitative surveys, project-generated monitoring data, administrative data
d. Are there detectable improvements in budget execution and efficiency of procurement execution in the PSUs and associated SKPDs?	Budget execution and procurement efficiency as measured by time from issue of tender to contract, self-reported efficiency	PSU staff, SKPD staff, LPSE	Qualitative interviews, quantitative surveys, administrative data
5. Staffing			
a. Are staff now permanent staff?	Share of staff made permanent	High-level stakeholders, PSU staff, project-generated monitoring data	Qualitative interviews, quantitative surveys, project-generated monitoring data
b. Do staff seem committed to and engaged in pursuing a procurement career path?	Commitment to procurement career	PSU staff	Qualitative interviews, quantitative surveys
c. Are trained or "permanent" staff retained?	Staff intend to stay in procurement position	PSU staff	Qualitative interviews, quantitative surveys
d. Do staff feel more supported administratively and legally?	Self-reported administrative and legal support	PSU staff	Qualitative interviews, quantitative surveys
e. Was there a gender inclusive strategy for recruiting procurement staff?	Gender inclusiveness of recruiting	High-level stakeholders, PSU staff, Project-generated monitoring data	Qualitative interviews, quantitative surveys, project-generated monitoring data
6. Overall Evaluation Questions			
a. Were the Activities/Sub-Activities implemented as designed?	Fidelity to design and perceptions of quality	High-level stakeholders, PSU staff, project-generated monitoring data	Qualitative interviews, quantitative surveys, project-generated monitoring data
b. What were the implementation challenges and successes?	Implementation challenges and successes	High-level stakeholders, PSU staff, project-generated monitoring data	Qualitative interviews
c. Is there evidence that the interventions have resulted in the outcomes outlined in the project logic?	High-level outcomes in project logic	High-level stakeholders, PSU staff, SKPD staff, LPSE	Qualitative interviews, quantitative surveys, administrative data
d. Was the set of activities designed the right or most strategic intervention for the Indonesian procurement context or to improve Indonesian government procurement?	Right or most strategic intervention for Indonesian context	High-level stakeholders, PSU staff, SKPD staff	Qualitative interviews, quantitative surveys
e. Has framework contracting/e-catalog resulted in time and/or cost savings?	Cost savings due to framework contracting/e-catalog	High-level stakeholders, PSU staff, SKPD staff	Qualitative interviews, quantitative surveys

Evaluation Question	Key Outcomes	Data Source	Data Collection Method
f. Is there evidence for cost savings in the program PSUs?	Cost savings due to PM Project components	High-level stakeholders, PSU staff, SKPD staff, LPSE	Qualitative interviews, quantitative surveys, administrative data
g. How has budget absorption in the PSUs changed over time?	Budget absorption	PSU staff	Qualitative interviews, quantitative surveys
h. Has there been an increase in PPP transactions?	PPP transactions	Case study	Qualitative methods
i. Did the program contribute to change perceptions of corruption or transparency?	Perceptions of corruption and transparency	High-level stakeholders, PSU staff, SKPD staff	Qualitative interviews, quantitative surveys

4.3 Country-Specific and International Policy Relevance of Evaluation

The evaluation seeks to establish evidence on the possible effects of an intervention designed to modernize public procurement. While previous MCC programs on reducing corruption in public procurement have been implemented in Paraguay, Uganda, and Kenya, these three prior programs have been threshold programs and relatively smaller in magnitude than the $50 million procurement modernization component of the Indonesia Compact. The Indonesia Procurement Modernization Project is the first to try to achieve results more broadly and at a national scale. The impacts of the Indonesia PM Project evaluation may have implications for the design of future MCC programs, and broader dissemination of the project's findings may influence other donors as well. Although existing quantitative evidence on the introduction of e-procurement suggests that procedural and other reforms may improve procurement outcomes (Lewis-Faupel et al., forthcoming), there is little quantitative evidence on more comprehensive reforms directed at a national scale. The MCC Procurement Modernization project evaluation seeks to fill this space with new and more compelling evidence. Our evaluation will not be able to directly measure effects on economic growth as a result of the project due to the timing of the endline.

4.4 Methodology

We first discuss our quantitative approach and then briefly describe our qualitative approach.

4.4.1 Quantitative Approach

Our quantitative approach uses a pre-post design with a comparison group for the survey data (difference in difference estimation), ITS design for the administrative data collected through LPSE, and a cross-sectional summary of the project-generated monitoring data. The quantitative data collected from the survey, administrative, and monitoring data will be examined using three different analysis methods (difference-in-differences, ITS, and descriptive analysis). Table 4 provides an overview of the quantitative data and analysis approach.

Table 4. Data Collection and Analysis Approach for Quantitative Data

Evaluation and Analysis Approach	Data	Comparison Group Information	Sample Unit/ Respondent	Sample Size	Relevant Instruments/ Modules	Exposure Period (months)
ITS with a comparison group	SPSE (secondary data – admin extant)	Comparison group selected using propensity score matching technique	Phase 2 treatment and comparison PSU tender information	Tenders from 15 treatment PSUs to matched comparison group of PSUs	Administrative data	Phase 2 (24 months)
Difference-in-differences and descriptive analysis	PSU survey data (primary data)	Comparison group are PSUs that were not selected in Phase 2	Staff at Phase 2 treatment and comparison PSUs	12 treatment PSUs (Phase 2)[18] 10 non-treatment PSUs (Phase 2)	Quantitative survey instrument	Phase 2 (24 months)
Descriptive analysis	Project-generated monitoring data (secondary data - extant)	No comparison group	Phase 1 and Phase 2 treatment PSUs	45 treatment PSUs	PMM, MM, CoE, etc.	Phase 1 (36 months) and Phase 2 (24 months)

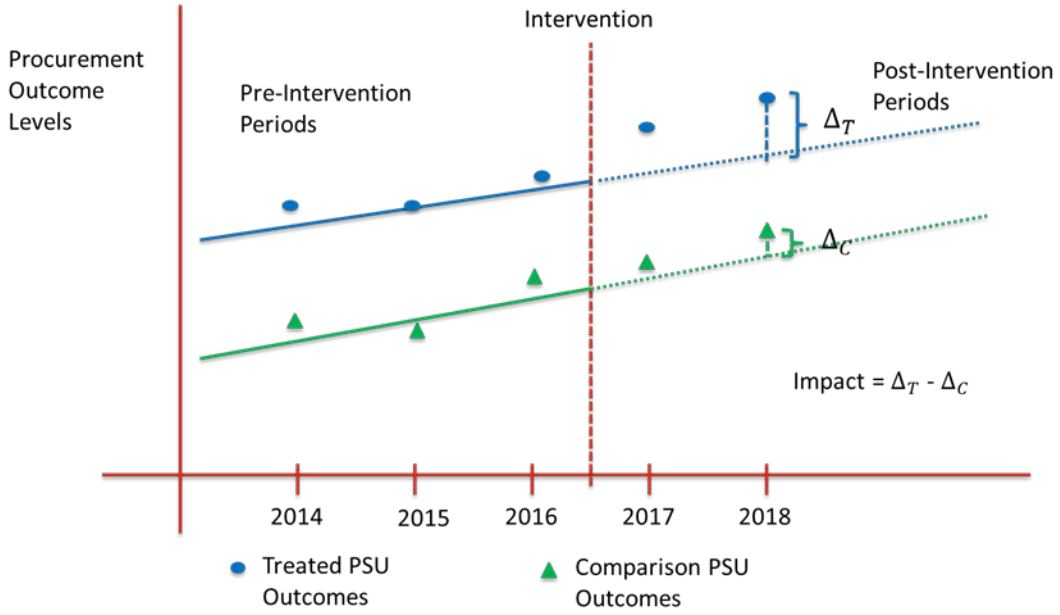
In addition, the quantitative analysis will use the following methods to examine changes in outcomes.

Interrupted time series with a comparison group approach. We will use the administrative data from the LPSE, the Indonesian system for electronic procurements, to assess the impact of the PM Project on tender-related outcomes: time to procurement, percentage of on-time procurements, cost, cost relative to budget, cost relative to owner estimate, number of bidders, and other outcomes based on availability of data. The type of data available in the SPSE and the issues related to this dataset are described in Section 5. Each tender will be put in a procurement category for each PSU and year. We will calculate average outcome measures for each procurement category for each PSU in each year. An interrupted time series with a comparison group (CITS) approach will then use changes in these outcomes for Phase 2 PSUs relative to a selected group of comparison PSUs over several periods of time (pre- and post-implementation of the intervention) to assess the impact of the intervention. To be more specific, using a CITS approach, we will analyze project impacts by looking at the difference between the deviation from the baseline trend on outcomes for treatment PSUs and the comparison PSUs.[19] The CITS evaluation approach is illustrated in Figure 3. Having historical data for the above outcomes spanning a couple of years before the inception of the PM Project in the SPSE data will enable us to estimate time trends using these pre-intervention periods and treatment effects as deviations from these estimated trends projected forward into the post-intervention period. See Section 10.3 in the Annexes for the analysis plans for the CITS approach.

[18] LKPP and 3 ministries were dropped from the Phase 2 sample due to their unique nature / lack of comparability.

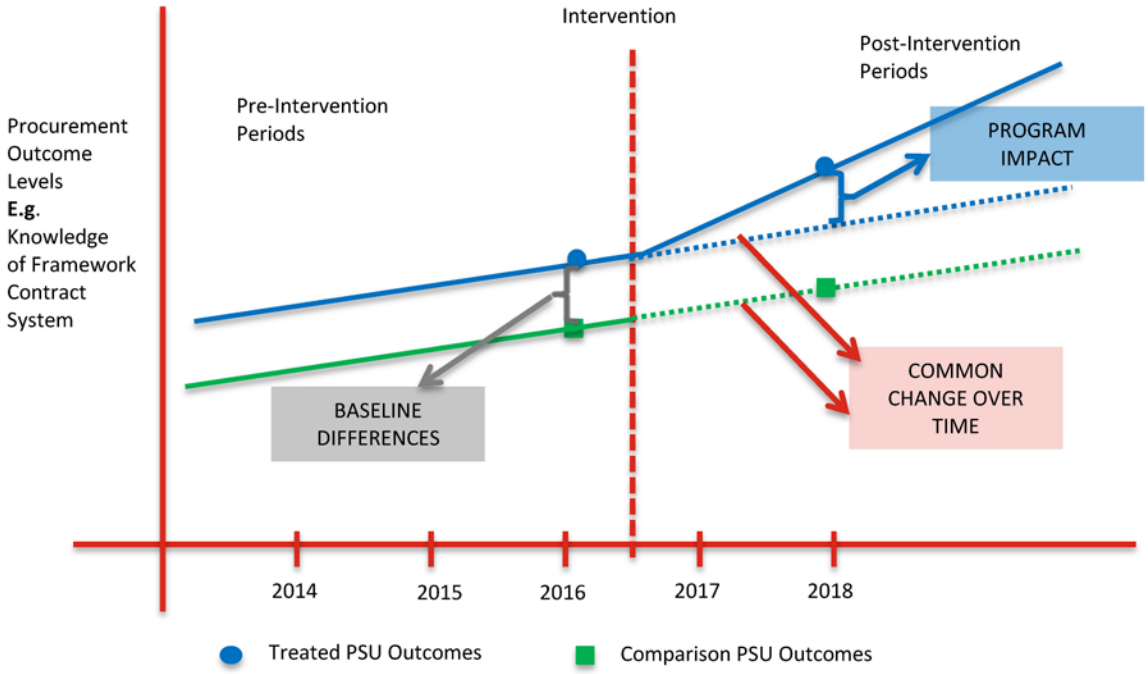
[19] The time trends for the CITS that may differ by treatment status mitigate the traditional concerns over the difference-in-differences approach, which assumes time trends to be equal across treated and comparison units.

Figure 4. Interrupted Time Series Estimation



Difference-in-differences approach. For the outcomes collected from PSU staff from the quantitative survey (such as desirability and stature of procurement career paths; involvement along the procurement process continuum; procurement timeliness, efficiency, and responsiveness; level of procurement fitness to purpose; PSU and stakeholder satisfaction; and other outcomes including use of framework contracts and PMIS), we will have pre- and post-intervention information but only for Phase 2 treated and comparison PSUs. The baseline and endline quantitative survey outcomes for Phase 2 treated and comparison PSU and associated SKPD staff will be analyzed using a difference-in-differences approach. In this report, we present only the baseline data from the quantitative survey for Phase 2 treated and comparison PSUs in Section 6. After the endline, we will conduct a difference-in-differences analysis to estimate the impact of the project on the abovementioned outcomes. This approach compares the outcomes across treated and comparison units before and after the intervention, as illustrated in Figure 4. As Figure 4 shows, this estimation technique is able to control for baseline differences across treatment and comparison groups as well as removing the effect of time trends (change over time that are common to both treatment and comparison PSUs). Note that the difference-in-differences approach is applied only to Phase 2 PSUs because the timing of the start of the evaluation did not allow us to collect baseline data on the relevant outcomes for Phase 1 PSUs, which began treatment in 2015.

Figure 5. Difference-in-Differences Estimation

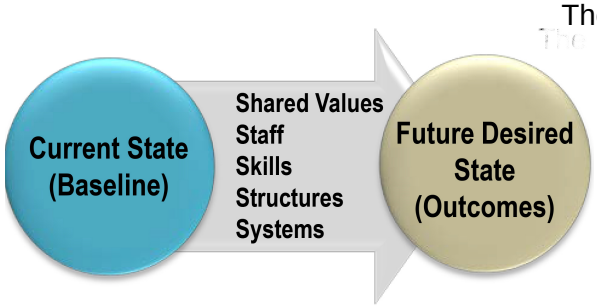


Descriptive analysis. For those outcomes in the quantitative survey that are asked about only at endline and as well as those outcomes measured from the cross-sectional project monitoring data, we will provide a descriptive summary of the information. These outcomes are participant ratings of project activities, and a pre-post analysis of progress along specific metrics, including the Maturity Model and test scores for training participants.

4.4.2 Qualitative Approach

The quantitative approach will be supplemented by a pre-post design with a comparison group for the qualitative in-depth interviews with PSU and associated staff to answer all the research questions (see Table 5). The objective is to qualitatively assess the changes in PM Project pilot PSUs' (treated) experience over time compared to a group of non-pilot PSUs (untreated) over the same period of time. The approach seeks to understand the specific changes sought by the PM Project (intervention), and whether those changes actually occur. To do so, it is necessary to understand what it is that the pilot PSUs are changing from, and what the goals of the change are. This can be referred to as moving from a current state (baseline) to a future desired state (outcomes); see Figure 5.

Figure 6. Organizational Change Pathway



The inputs, outputs and outcomes and associated changes detailed in the PM Project logic (Figure 1) reflect an organizational transformation design. Therefore, the evaluation approach will employ an organizational transformation framework to develop a contextualized understanding of the changes resulting from the

PM Project. The organizational change framework for this evaluation is derived from the classic 5S McKinsey model. The 5S model posits that effective organizational change depends on the interrelationships between key organizational elements—structure, systems (formal and informal procedures), skills (employee skills and competencies), staff (e.g., employees, attitudes, motivations), and superordinate goals (or shared values).[20]

The qualitative evaluation will be utilization-focused; one of its goals will be to develop actionable findings. This will include focusing on the identification of promising practices, as well as strategies to support proliferation and sustainability.

Table 5. Data Collection and Evaluation Approach for Qualitative Data

Data Collection	Comparison Group Formed	Timing MM/YYYY (include multiple rounds)	Sample Unit/ Respondent	Sample Size	Relevant Instruments/ Modules	Exposure Period (months)
PSU interviews	Phase 1 – matched on characteristics, Phase 2 – shortlisted but not selected	Baseline for Phase 2, 10/2016 Recall for Phase 1, 10/2016 Endline for Phase 1 and 2, summer 08/2018	Staff at PSU (treatment and comparison)	26 treatment PSUs (11 from Phase 1, 15 from Phase 2) 18 comparison PSUs (8 from Phase 1, 10 from Phase 2) Total of 126 respondents (around 3 from each PSU)	PSU Staff Guide	Phase 1 (36 months) and Phase 2 (24 months)
Associated PSU SKPD interviews	Same SKPD as treatment group SKPD	Baseline for Phase 2, 10/2016 Recall for Phase 1, 10/2016 Endline for Phase 1 and 2, summer 06/2018	Staff at associated SKPD	20 SKPDs associated with treatment PSUs 15 associated with comparison PSUs Total of 38 respondents (around 1 from each SKPD)	SKPD Staff Guide	Phase 1 (36 months) and Phase 2 (24 months)
Stakeholder organization interviews	No comparison group	Interim data, 08/2016 Endline, summer 05/2018	Staff at stakeholder organization (LKPP, MCA-I, contractors)	Approx. 4 stakeholder organizations Total of 10 respondents	Key Informant-Staff Interview Guide	Phase 1 (36 months) and Phase 2 (24 months)

Our approach to the qualitative analysis was as follows:

Coding: The interview data were entered into NVivo using a standardized coding scheme. The coding scheme was derived from the 5S model in combination with nodes devoted to evaluation

[20] Compared to the classic 7S McKinsey model, in the 5S model, style is subsumed under shared values, which also encompasses organizational culture; strategy is disaggregated and observed as the change plans across all five other elements.

question sets and inputs, outputs, and outcomes designated in the project logic (see Section 4.2 and Table 5 above).

Analysis method/framework: The qualitative approach used the 5S framework to organize data collection, management, and analysis. Using the 5S organizational transformation model as the framework helps to array the PM Project logic inputs and outcomes into related groupings defined by superordinate goals (or shared values), structure, systems, skills, and staff (Table 6).

Table 6. 5S Frame

5S Constructs	Project Inputs/Activities
Shared Values (Superordinate Goals)	• The sum of all inputs/activities
Structure	• Organizational development training and mentoring • Institutional establishment mentoring • Policy dialogue • Training institutions
Systems	• Advisory services and development of PMIS • Implementation of PMIS for LKPP and PSU • Development of policy procedure for framework agreement • Development of standard bidding documents for framework agreement • Advisory services for framework agreement for LKPP and PSU • Advisory services on PPP for policy and procedures • Development of SBDs for 4 PPP pilot projects • Development of Maturity Module • Development of computer-based training • Development of competency for procurement professionals • Development of system of fraud filters
Skills	• Procurement skills training and mentoring for PSU staff • Procurement skills training for non-PSU staff • Training of auditors • Organizational development training and mentoring for PSU and non-PSU staff • Capacity building training on PPP for LKPP and the government coordinating agency
Staff	• Procurement skills mentoring for PSU staff • Organizational development training • Institutional establishment mentoring

Once the endline data are available, we will compare it with the baseline data to assess the level and types of organizational transition across the five elements of the framework. We will seek to determine respondent perceptions of change regarding the inputs provided through the PM Project. These qualitative analyses will be validated by comparing the perceptions of the respondents to the objective measures available from the quantitative analyses. We will compare this information to the experiences of the non-pilot PSUs to help tease out general PSU change and evolution from that driven by the PM Project inputs. For the baseline report, we present the state of the five elements of the framework before the implementation of the intervention for the treated and the comparison PSUs. The qualitative findings from the baseline are presented in Section 6.

In order to determine whether, how, and why those inputs affected outcomes, at endline we will assess fidelity to design of the inputs, making note of changes to design and rationale for

changes to design. PM Project implementation facilitators and barriers will be recorded at endline and used to contextualize the reported experiences and outcomes of pilot PSUs.

4.4.3 Identification Strategy

For the quantitative and qualitative surveys, we have established a comparison group of PSUs for each treatment PSU. For the SPSE data, we will establish a comparison group of PSUs, once all the data issues have been tackled. Our identification strategy for each of the analysis methods will depend on the strength of these comparison group PSUs. In addition, by design, we will control for pre-intervention outcome variables to address any differences between the treatment and comparison groups. For the difference-in-differences as well as the ITS analysis, the identification of the desired treatment effect comes from removing the constant time effect using the comparison group to mimic what would have occurred in the absence of the intervention (see Figures 3 and 4). For the difference-in-differences analysis, the implicit assumption is that the pre-treatment trends in the treatment and comparison group are the same (Bertrand, Duflo and Mullainathan, 2004), however the outcomes at baseline are allowed to be statistically significantly different across treatment and comparison PSUs, since these differences will be accounted for by this methodological approach. The CITS strategy with data on several pre-treatment periods allows us to control for the trends in the outcome before the treatment was introduced, and hence is a stronger design than the difference-in-differences approach. We will discuss the internal validity risks after presenting our sampling strategy and further examine it after examining the baseline results comparing the pre-treatment outcome measures for the treatment and comparison group.

4.4.4 Assessment of External Validity Risks

For the effect estimate to be generalizable Indonesia-wide, PSUs should have been randomly selected to participate in the project. However, across both phases, PSUs were purposively selected from those who expressed interest and met certain eligibility criteria established by the implementers to participate in the project (beyond the scope of the evaluators). For the ITS strategy, all Phase 2 treatment PSUs will be included. We purposively sampled nine treatment PSUs in Phase 1 for geographic diversity for the qualitative survey (all Phase 2 treatment PSUs were selected for quantitative and qualitative surveys). These activities make generalizability of the ITS and survey result to a countrywide impact difficult. The tradeoff between internal and external validity often exists in studies, and our aim was to maximize the internal validity of our result. To the extent possible, if all the non-treated PSUs in Indonesia are similar to those selected to participate in the project, then our result would be applicable to the entire Indonesia context. It is, however, less likely to apply to other countries due to the Indonesia-specific context.

4.5 Sampling Strategy

4.5.1 Power Calculations

The sample size for the evaluation varies as follows:

Administrative data. The sample size for CITS evaluation of tender-related outcomes using SPSE data still needs to be determined by the size of the universe of average tenders by government agency types requesting them and by procurement category originating from

treatment and comparison PSUs. We currently present 2015 tender information by treatment and comparison PSUs in Section 6.

Survey data. The sample size for the difference-in-differences analysis of survey data is determined by the universe of PSUs and SKPD employees that can reasonably be sampled, and is projected to be 440 respondents. The sample size for the descriptive analysis of survey and program-generated data is projected to be 45 treatment PSUs or 15 non-LKPP Phase 2 PSUs, and 300 respondents.

The standard formula for minimum detectable effects (MDEs) was used to calculate MDEs for the following outcomes under varying sets of assumptions: number of bidders, ratio of cost to owner estimate, and number of months to complete a tender, and for all Likert scale questions included in the survey. Section 9.2 in the Annexes presents the MDEs associated with the sample sizes above to be able to detect small changes in the relevant outcomes under consideration.

4.5.2 Construction of the Sample Frame

For the quantitative and qualitative survey as well as the program-generated M&E data, the sampling frame is all Phase 1 and Phase 2 treatment PSUs. For the comparison group for the survey data, the sampling frame is PSUs that did not receive the treatment in either phase. All staff members in the treatment and selected comparison group of PSUs form the sampling frame for those selected to participate in the quantitative and qualitative survey. In addition, all staff associated with key stakeholders (e.g., MCC, LKPP, MCA-I, contractors) form the sampling frame for the key stakeholder survey questionnaires.

4.5.3 Sample Selection

Below we specify our sample selection criteria for the different data sources.

Administrative data: For the administrative data, the treatment groups consist of all treated PSUs from Phase 2, with the exclusion of LKPP, due to its special character and role in procurement in Indonesia and all Ministries, since higher level government entities are not identified in the SPSE data. Comparison groups for Phase 2 PSUs were constructed as follows: Phase 2 comparison PSUs will be PSUs that were shortlisted but not selected for treatment.

Quantitative Survey: The quantitative survey focused only on Phase 2 participants as Phase 1 PSUs have already received treatment, and therefore a true quantitative baseline could not be established for them. For Phase 2, 26 PSUs were shortlisted to participate but 15 were selected and allowed to participate. All Phase 2 treatment PSUs with the exception of the four ministries were surveyed at baseline. We did not include the ministries in the quantitative survey because we do not believe they are comparable in enough ways to standard PSUs. Ministries due to the magnitude of their procurement activities both in value and volume are not comparable to smaller government units. This exclusion of the ministries left us with a total of 12 treatment PSUs. The comparison group for Phase 2 participants was created from those 10 PSUs that were shortlisted but not selected to participate in the project. As all these 10 PSUs had expressed an interest in participating in the project, the implicit selection bias is reduced by selecting them as our comparison group.

***Respondent(s) within the sample unit*:** Within PSUs selected for study, up to 20 individuals from the PSU and associated SKPD were to be interviewed for the survey, ideally 15 from the PSU and 5 from the SKPD. Most PSUs and related SKPDs have 20 or fewer employees combined. If there are 20 or more employees per PSU and related SKPD combined, the survey firm was instructed to choose employees in the following way:

PSU: Look at a roster of employees at the PSU on the day of the survey and choose every n^{th} employee from a roster of staff, including at least two management staff.

Related SKPD: Survey all employees if there are five or fewer employees. If there are more than five employees, use the same n^{th} procedure to choose employees from a roster of staff provided by the SKPD on the day of the survey, including at least one management staff member.

Through this method, we surveyed on average 16 staff members from each PSU along with an average of 4 staff members from each associated SKPD. The selection criterion for the SKPD was based on two criteria: the number of contracts and the type of SKPD. We attempted to include only SKPDs that achieved a minimum cutoff number of contracts (at least five contracts) with the PSU. In addition, we also made an effort to achieve even dispersion of the type of SKPD interviewed across the treatment and comparison PSUs, from the three most common types: public works, education, and health. While Abt created a list of SKPDs based on these criteria, we also created a list of alternates in case some of the SKPDs were unavailable or refused to participate. As is discussed in Section 5.2.1, the survey firm needed to use alternate options for three SKPDs in the comparison group, causing the distribution across type of SKPD to be slightly unbalanced, as can be seen in Table 7. The only Phase 2 PSUs that were not matched were those based in the ministries due to their unique nature. Although no comparison PSUS exist for ministries, data were collected from the ministry PSUs to allow for descriptive and pre-post analyses.

Table 7. Sample of Employees from Phase 2 PSUs for Quantitative Survey

	Comparison	Treatment	Total
Panel A: Total PSUs/SKPDs			
Number of PSUs surveyed	10	12	22
Number of SKPDs surveyed	10	12	22
Public Works SKPDs	5	4	9
Education SKPDs	2	4	6
Health SKPDs	3	4	7
Panel B: Total Employees			
PSU Employee Only			
Average number of staff surveyed	13	13.8	
Total number of staff surveyed	130	165	295
SKPD Employee Only			
Average number of staff surveyed	3.5	3.3	
Total number of staff surveyed	35	40	75
Employed by both PSU & SKPD			
Average number of staff surveyed	9	7.6	
Total number of staff surveyed	18	38	56
TOTAL	***183***	***243***	***426***

Notes: There were only 2 comparison PSUs and 5 treatment PSUs that had employees who worked in both the SKPD and PSU. The averages presented in the table reflect the averages across those 7 PSUs.

Qualitative Survey: The qualitative survey focused both on Phase 1 and Phase 2 treatment PSUs. Eleven treatment PSUs from Phase 1 (including 2 treatment ministries) and 15 treatment PSUS from Phase 2 (including 3 treatment ministries) and associated SKPDs were purposively selected for geographic and government dispersion. Nine comparison PSUs for Phase 1 were selected on purpose such that they matched the corresponding non-ministry Phase 1 PSUs according to geography, procurement budget for goods and services, average number of bidders, average bid price and average procurement time for each PSU. For 12 Phase 2 non-ministry treatment PSUs, we selected the 10 PSUs that were shortlisted but not selected for participation to participate in the qualitative survey. Further, three to four staff at stakeholder organizations (MCC, MCA-I, LKPP, and contractors) were selected for the key stakeholder interviews.

For the M&E data, all Phase 1 and Phase 2 treatment PSUs with available data will be reported on.

4.5.4 Balance in Means Tests and Validation of Internal Validity of Evaluation Design

This section describes the baseline balance testing we conducted on the quantitative survey data and testing of the validity of our comparison group. In Section 5.3, we present the results from our baseline balance testing. To test if there is any systematic difference in baseline between the treatment and comparison group, we conducted an F-test for each domain of questions. If the difference between the treatment and comparison was statistically significant at the 5% level, we also conducted an individual *t*-test on the difference in means of the treatment and comparison group for item in the domain. As expected, there might be some significant difference at a 5% level for some of the baseline variables due to external factors such as the local context and local government or even due to chance. Yet even though, in principle we would prefer there to be minimal differences across the groups, significant differences between a few variables do not indicate failure of the comparison group. Furthermore, since the choice of evaluation method is a Difference in Difference Methodology this means that we will control for both baseline differences across the treatment and comparison groups as well as common time trends. Consequently, even when statistically significant differences exist this fact does not invalidate the evaluation design.

4.5.5 Assessment of Internal Validity Risks

Limitations and challenges to the evaluation include challenges with measurement; potential challenges to the validity of the assumptions underlying our proposed evaluation design; and potentially power to detect impacts.

For the quantitative analysis, we anticipate having difficulties in measuring outcomes of which respondents may not be aware (such as budget absorption), and which they may not wish to report accurately (for example, regarding corruption and transparency). For example, in our baseline analysis, we find that respondents believe there is corruption in the procurement process in Indonesia but not in their own PSU across all respondents. We anticipate that such difficulties will result in a downward bias in estimates, making our impact estimates for the program conservative. In addition, our difference-in-differences analytical framework may not be well suited to accurately measure changes if underlying trends are dissimilar for treated and comparison units because of selection into the project. However, our ITS analysis will inform on whether pre-intervention trends are similar across treated and comparison units, further

strengthening our interpretation of the difference-in-differences estimates. Finally, if the program impacts are not large, we may not be able to detect these impacts. We will be using the universe of e-tenders in our ITS analysis, and will be surveying nearly all employees in most treatment PSUs (except for in larger PSUs), and will not have scope to adjust our sample to increase statistical precision to detect program impacts. Further, as shown in our power analysis, we are well powered to accommodate economically small changes in the most relevant outcomes. Using the sample of shortlisted PSUs helps to mitigate any concerns about selection bias, since these PSUs were also motivated to seek entry into the project, and thereby increase our internal validity of the results.

In Section 5, we outline the quality, completeness, and types of data elements available in LPSE, which have been changing across the years. Any future changes will affect the analyses that can be performed over different time periods depending upon the data available (i.e., analyses involving fewer types of data may be possible over a greater number of years (2015–2018), while more nuanced analyses involving more varied types of data may be possible only for later years (2016–2018). In Section 6, we present descriptive key data elements for 2015.

For the qualitative analysis, challenges will include collecting information from interview respondents on topics about which they may have limited knowledge (although that information in itself can be useful). Further, respondents may bias their answers toward responses that they believe reflect best on themselves or their organizations (social desirability issue). To minimize this bias, we will remind respondents that their answers are confidential and will not be attributed directly to them. In addition, qualitative analyses will be validated against the objective measures available from the quantitative analyses. Other challenges of the qualitative analysis include limitations regarding objectivity and measurement. The information provided in both the interview and stakeholder reports is largely based upon individual perception and not drawn solely from objective evidence. In addition, statistical tests cannot be applied to qualitative data; therefore, differences, distributions, and magnitude cannot be precisely measured or expressed.

4.6 Sample Size

Quantitative Survey: The quantitative survey, in total, had 426 respondents, from 22 PSUs. Of the respondents surveyed, 183 were associated with the 10 comparison PSUs and 243 were associated with the 12 treatment PSUs. Of the 426 respondents, 45 were managers, 295 were employed at the PSU only (including the managers), 56 were employed in both the PSU and the associated SKPD, and 75 were only employed by the SKPD. Of the whole sample of employees surveyed, 79.8% were men and 20.2% were women. The average numbers of employees interviewed in each PSU are shown in Table 7 above, which also summarizes the sample by comparison and treatment group statistics.

Qualitative Survey: The qualitative data collection effort, in total, resulted in 164 employees interviewed (126 from PSUs and 38 from SKPDs), 44 PSUs interviewed, 35 SKPDs interviewed, and 10 key informant interviews. Table 8 provides sample sizes by comparison and treatment group, as well as by Phase 1 and Phase 2 PSUs. It should be noted that interviewers recorded gender for only 82% of the people interviewed. Of these people, 19% were women and 81% men.

Table 8. Sample of Employees for Qualitative Interviews

	Comparison	Treatment	Total
Panel A: Total Phase PSUs/SKPDs			
Number of PSUs Interviewed, Phase 1	8	11	19
Number of PSUs Interviewed, Phase 2	10	15	25
Number of SKPDs Interviewed, Phase 1	7	9	16
Number of SKPDs Interviewed, Phase 2	8	11	19
TOTAL	**33**	**46**	**79**
Panel B: Total Employees			
PSU Employee			
Total Number of Staff Interviewed, Phase 1	22	32	54
Management	15	22	37
Staff	7	10	17
Total Number of Staff Interviewed, Phase 2	29	43	72
Management	19	27	46
Staff	10	16	26
SKPD Employee- SKPD			
Total Number of Staff Interviewed, Phase 1	8	10	18
Total Number of Staff Interviewed, Phase 2	8	12	20
TOTAL	**67**	**97**	**164**
Panel C: Key Informant Interviews			
TOTAL			**10**

Note: Compared to the sampling plan, five PSUs and five SKPDs are not represented because we were unable to collect data at the PSU or there were missing data. Data from three interviews were not included in data analysis due to quality issues.

4.7 Exposure Period: Includes Exposure Quantity and Duration

The timeframe of exposure for the quantitative analysis varies by method of analysis and outcome as follows:

- For the ITS analysis of SPSE data, we are only able to use one year of pre-period data for each Phase 2 PSU (2015), for treated and comparison PSUs. We will follow up with analysis of post-intervention outcomes in May -June of 2019, with data on two post-intervention periods available for Phase 2 PSUs (2017 and 2018).
- For the difference-in-differences analysis of Phase 2 PSUs, we have baseline information from September 2016 and will conduct an endline in May-June of 2019 (three-year exposure).

Project monitoring data will be available from the initiation of the project intervention—in 2015 for Phase 1 PSUs and 2016 for Phase 2 PSUs—through to the close of the project activities at the end of the compact in 2018 (three-year exposure for Phase 1 and two-year exposure for Phase 2). Project monitoring data will be collected during endline.

For the qualitative survey, we have baseline information for Phase 1 (recall information) and Phase 2 PSUs from September 2016. We plan to conduct endline data collection in August-September of 2019 (four-year exposure for Phase 1 and three-year exposure for Phase 2).

The minimum exposure period across the various analyses will be two years, and the maximum is expected to be four years.

5. Data Sources and Data Analysis Plan

5.1 Administrative Data

5.1.1 SPSE data Description and data quality issues

The administrative data came from the PMIS portion of the project. PMIS is composed of several applications used to develop an end-to-end system, tightly aligned with Perka, for the management of all processes associated with Catalog Contracts and e-catalogs. This is referred to as the Catalog Management System. Among other tasks, PMIS was charged with the generation of a central data warehouse (under Berca) which receives information from the Electronic Procurement System (SPSE), the General Procurement Planning (RUP), and all e-tendering and e-purchasing components (which includes the e-catalog). PMIS encompasses is composed of the transactional data sets: Electronic Procurement System (SPSE) and the system for the publication of the Annual Procurement Plan (RUP) called SiRUP (also known as the General Procurement Planning System). The SPSE data consist of tender-level data for each PSU, while the SiRUP system documents the general procurement plan of the budget unit of these tenders. Hence these data will provide information at the tender level.

There is no classification based on size of procurement registered in this system (i.e. electronic tender). The Presidential Decree Number 54 Year 2010 only classify the e-procurement data based on procurement type such as goods, construction, consultancy services and other services.

In order to appreciate what type of data will be analyzed first it is important to understand what the coverage of SPSE is, in other words what fraction of the procurement data is included in this system. In order for information related to a procurement to enter the SPSE database it has to be an e-tender. To constitute an e-tender, a procurement has to fulfill two pre-requisites. First it has to be valued above 200 million Indonesian Rupiah (IDR), which is around US$ 15,000. Any procurement less than 200 million IDR does not have to go through a tendering process. In these cases, procurements with lower volume and lower value will just be acquired by public institutions using a PCARD or “Corporate Credit Card”. For procurements of low value but acquired in high volumes, public institutions have to use the e-catalog (and if available a Framework Contract) since these procurements are easily standardized.

For procurements of more than 200 million IDR all public institutions have to generate tenders. However, not all of these go through the e-procurement system. There are exceptions for the e-tendering for emergency and military spending that can potentially go through open tenders. Hence, for a procurement to become an e-tender and be registered in the SPSE system it has to be value above 200 million IDR and it should not belong to an exception category. For all procurements valued above 200 million IDR, if they are tendering in low volumes they probably acquired goods and services through a contract and a purchase order, although the e-catalog could also be employed if available. In contrast, for procurements of high value and high volume the e-catalog would be used more often. Another important point to keep in mind is that, as of the first quarter of 2017, only e-tenders where contracts have been awarded were entering the data warehouse. Yet towards the final quarter of 2017 there is an expectation for in process tenders to also be included in the data warehouse.

Finally, a critical aspect to understand the type of data available in the SPSE system is to be cognizant of the relevant business process behind this system: the parties responsible of inputting each e-tender, their capacity, mandates and the specific system used to retrieve this information. Even though the data is centralized in one system (the data warehouse) and all data fields are generated by the SPSE program the data is inputted at the 640 different LPSEs (the Electronic Procurement Services where the SPSE e-tendering system is hosted). In fact, LPSEs have bidding rooms where people can use computers to publish tenders. Moreover for each LPSE there could be multiple budget units that use the SPSE application in one LPSE location. In other words, the SPSE e-tendering system is a highly decentralized system that is located in over 640 LPSEs all around the country. Each LPSE is funded by the budget entities that chose to use it. Hence the tender data quality will be highly dependent on the quality of the budget unit financing it, since this will also determine what version of the data collection engine these LPSEs are using. Some LPSEs are still using version 2.0 while others are already in version 3.0 (with version 4.0 coming soon). For example the Ministry of Finance will have the highest quality data which will contrast with the data quality of a small local budget entity with not up to date computer applications.

Steps to generate SPSE data

1. In principle it is important to understand that the information that will be entered into the SPSE data is first generated by the appropriate budget unit (KLDI). Indeed the first step is to create a bidding document. This is done by the Commitment-Making Offices (PPKs) that belong to each budget unit since these are responsible for conduct of procurement of goods/services in their respective unit. The head of the budget unit is called the *Satker* and under this person there are multiple PPKs that create bidding documents for tenders. These PPKs get help from the PSUs to be able to complete these bidding documents appropriately.

2. The second step once the final version of the bidding documents has been finalized is for the PPK to sign it and approved it. Once this is done the PSU enters the data contained in the bidding document into the SPSE system at their corresponding LPSE.

3. Once the PSU publishes the tender at their local LPSE website portal[21] (a pdf document containing all the technical specifications for the procurement), suppliers are able to input the necessary data online for themselves. It must be noted that once the data is in the system the PSU is the owner of the process.

4. Once the time allotted for suppliers to input their information has elapsed the system closes the tender and suppliers cannot input anymore data. At this point PSUs use the SPSE data inputted by suppliers and the attached files to evaluate the bids in three stages:

[21] In 2015 LKPP started centralizing the published tenders since before that, vendors had to sign into each of the 640 different websites in order to be able to look at all the e-tenders in the system. Moreover, they had to register in each of the 640 registries in order to see the e-tenders. As a response the a system called SIKAP – the National Registration of Vendors has been created so that suppliers only need to register in one website portal to be able to view e-procurements.

a. Administrative stage. This stage is used to determine if the vendor is a legally valid bidder.

b. Technical stage. Before being evaluated technically, the tenders are divided into two types: pre-qualification and post-qualifications procurements. Each type will have a different selection of suppliers. Pre-qualification procurements are evaluated based on pre-qualification documents which imply that only those whose pre-qualification documents passed are evaluated. All post-qualification procurements go through the technical stage.

c. Winner selection stage. In this stage a winner is chosen by the PSU who then passes the procurement to the PPK. At this point there is a stand still period where other supplier can complain about the PSU's decision. After this stand still period the PPK issues a letter to appoint a winner, but the data related to the time when this actually happens is many times inputted in the SPSE system with error and is out of the PSU's control. The final price for the procurement is inputted by the PPK who has the ability to do contract amendments and increase the bid price all the way up to the budget ceiling for the tender. The modification might never make it to the system since the PPK has no incentive to publish this information.

The information in the SPSE database will allow the evaluation team to analyze trends across years in key performance measures, such as tender types by procurement category and government agency type, number of bidders per tender, procurement durations, amount offered by bidders, evaluation method type used per tender as well as number of tenders registered in the system. Hence, using this information at endline, we could verify if changes in policies, procedures, or other areas are leading to savings (financial or total lifecycle) in government procurements.

In the initial version of the draft baseline report we had included the variable: difference between the requested budget ceiling for a procurement package[22] (obtained from SiRUP) and the amount offered by bidders (obtained from SPSE) as variable to measure improvement in systems due to an increase in savings in the financial lifecycle of government procurements. However, recent information shared by the PM team during the Abt team's visit to Indonesia in May of 2017 alerted us to the fact that one of the sources of data we were using to construct this variable, the SiRUP, did not share the same code as the SPSE data. In other words the system hosting the Annual General Procurement Plan derived from each institution's annual budget (SiRUP) and the Electronic Procurement System (SPSE) did not share the same identifying code per tender which meant that only 70% of the data between the SiRUP and the SPSE systems could be matched. Furthermore, it was told to us that even in the cases where the codes matched, the value of the procurement in the SPSE system could signify only a fraction of the amount that appeared in the SiRUP system due to the fact that many tenders that are part of an institution's annual budget are not tendered electronically as it was discussed earlier. Furthermore, SiRUP was only implemented in a manner to gather any data in 2015. The PMIS team shared with us that even 2015 SiRUP data itself has proven to be of limited

[22] The maximum spending level for the package

value and difficult to work with despite the work completed in 2016 to improve it. Consequently, we decided not to include this variable in the report. The data present in the Baseline Report shows tender information aggregated by year, procurement category (procurement of goods, construction works, consultancy services for business entities and other services), and government agency type for 2015 and only for subnational levels of government (e.g. not Ministries), since there is only data available for 2015 for Phase 2 treatment and comparison PSUs. We are only able to disaggregate by treatment status for 2015 because the variable used to identify PSUs at the tender level is only available for 2015 and for lower government levels (e.g. provincial and local governments) in our current data set[23]. Indeed, according to the PMIS team 2015 is the first year where the SPSE data could be considered reliable. Pre-2015 data was compromised for the following reasons:

- Before 2015 the LKPP data collection engines that extracted the data from the local LPSE and collate it at LKPP were very unreliable. Indeed neither LKPP, nor the PMIS team can confirm that this data set is complete, correctly extracted and or even accurately allocated to the Agency for reporting.
- The status of the LPSE tendering system within the overall GOI procurement landscape was not compulsory during the pre-2015 years. Regulations were changed during 2013 to compel the use of LPSE e-procurement and it took all of 2014 to implement. As a result, budget units electronic procurement transactions do not reflect the universe of procurements that should have been electronically generated.

The data quality issues mentioned in this section will be considered during data analysis at endline.

5.2 Primary Data Collection Protocols

5.2.1 Quantitative

Primary quantitative data collection was conducted for Phase 2 PSUs only because Phase 1 PSUs had already received treatment prior to the contracting of the evaluation. Therefore, conducting a true baseline for Phase 1 was not possible. For those PSUs we only collected qualitative primary data, described in Section 5.2.2.

For the Phase 2 PSUs, Abt designed an original baseline survey instrument to measure outcomes of interest to the PM evaluation. This survey instrument contains 10 modules and covers a range of topics, including administrative structure/staff professionalization, procurement practices, desirability of procurement career paths, involvement along the procurement continuum, procurement timeliness and efficiency, framework contracting/e-catalog/PMIS/PPP, use of performance monitoring data, perceived levels of bias and collusion, and procurement knowledge. Both management and line staff were surveyed at the treatment and control PSUs. Management staff in the SKPDs associated with those PSUs were also surveyed.

[23] It should be noted that at the subnational level there is one PSU for each budget unit, yet this is not the case for the national level, which would have complicated our analysis even further.

To administer the survey we contracted a recognized local survey firm, SurveyMETER, through competitive sourcing. Prior to the beginning of data collection, members of the Abt team traveled to Indonesia to set up general preparation for the baseline, conduct interviews with stakeholders, and participate in training the enumerators. The enumerator training is intended to not only allow the enumerators to become familiar with the survey instrument itself, but to learn the intentions behind the questions as well. For this reason, one of our local consultants, a professional with procurement experience, provided a short lesson during this training on procurement itself in Indonesia.

To ensure data quality, we built a system of controls into the electronic data collection platform. Once data collection began, data were uploaded to our secure web portal every day after SurveyMETER's own review, and the Abt home office staff ran data quality checks to identify any issues and address them before they became pervasive. Over all, data collection took around 2 weeks. The very few issues that SurveyMETER encountered are summarized in their final report. In three instances, they were not able to interview respondents from the SKPD we had identified because the SKPD was either busy or being audited. Instead, according to established protocol, they were able to quickly choose from a list of alternates provided by Abt.

5.2.2 Qualitative

The qualitative data collection involved conducting semi-structured interviews with three groups: 1) the PSU staff (treatment and comparison); 2) SKPD staff (treatment and comparison); 3) stakeholder organization staff (LKPP, MCA-I, contractors). The aim of the interviews was to establish the current state of the pilot and comparison PSUs along the key organizational elements in the 5S model—structure, systems (formal and informal procedures), skills (employee skills and competencies), staff (e.g., employees, attitudes, motivations), and superordinate goals (or shared values). The interviews collected data on participants' self-reported practices, perceptions, and attitudes about the procurement system policies and procedures, organizational structure and leadership, reforms, corruption, and procurement careers, among others. The interview content was complementary to the quantitative data collection and elicited staff perceptions and explanations about the reasons behind self-reported practices.

The baseline interviews took place in August-October 2016, and the endline interviews will be administered in May-June 2018. Stakeholder reports were also reviewed prior to baseline data collection. The Abt team completed one-day training with the survey firm enumerators and with the qualitative consultants covering the project, instruments, and IRB and data security requirements. The qualitative consultant training also reviewed best practices for interviewing and data documentation.

Within PSUs and associated SKPDs selected for study, individuals were sampled for the interview response at the discretion of PSU and SKPD leadership, or, if possible, at random from a roster. Staff associated with key stakeholder organizations were selected through discussions with MCC and MCA-I staff to identify the staff most knowledgeable about PM Project activities.

Interviews with PSU and SKPD staff were conducted in Indonesian and English by in-country Abt team members and by local Indonesian-speaking qualitative consultants who were identified and recruited by in-country Abt team members. The Abt evaluation leads personally conducted

the key informant interviews in English. Interviews were recorded if permission was granted by the respondent, which not all respondents granted. Researchers completed verbatim notes for all interviews. The in-country Abt team members reviewed all interview notes, verified notes against recordings as needed, and spot-checked a sample of interview notes against recordings for quality control. In this review, three interviews were identified as being of insufficient quality and were therefore not included in the analysis.

We used three separate semi-structured interview guides to collect data: the PSU Staff Guide, SKPD Staff Guide, and Key Stakeholder Guide (also referred to as key informant interviews). Each of these guides focuses on some common areas of inquiry from multiple perspectives, such as overall and local support for the PM Project objectives, PSU involvement along the procurement process continuum, assessment of procurement process and outcomes, and perceived levels of biased or collusive practices. In addition, each guide probes more deeply in the areas of experience of each group. The PSU Staff Guide focuses on procurement leadership, PSU tender characteristics and context, staff professionalization, administrative structure and PSU permanency status, desirability or stature of procurement career paths, framework contracting, e-catalog use, and PPP. The SKPD Staff Guide explores the relationship and interaction between the PSU and the SKPD. The Key Stakeholder Guide collects data from a very different point of view, because the stakeholders are involved in directing and implementing the PM interventions. Topics in this guide include the intended goals of the PM Project, overall challenges to PM Project implementation, adaptations to PM Project implementation and approaches, high-level assessment of the political economy likely to affect the PM goals, and program data quality and completeness.

The verbatim notes were entered into NVivo for coding. The verbatim notes were reviewed by an in-country Abt team member for quality and addressed any quality concerns using audio recordings when available.

5.3 Data Analysis

5.3.1 Quantitative

In this section we first describe the baseline balance testing on the quantitative survey data. To test if there is any systematic difference at baseline between the treatment and comparison group, we conduct an F-test for each domain of questions. If the difference between the treatment and comparison is statistically significant at the 5% level, we also conduct individual t-tests on the difference in means of the treatment and comparison group for each item in the domain. At the end of this section we present the past trends for the SPSE data aggregating tenders by procurement category and government agency type. Section 9.3 in the Annexes presents the analysis plan that will take place at endline using both sources of quantitative data. It is very important to understand that when we will analyze the data at endline we will not be looking at isolated outcomes such as budget execution and efficiency in procurement execution (as exampled by reduction in time allotted to evaluate bids or choose bid winners for e-procurements) since this could lead to conflicting results. We clearly understand that there could be multiple confounding variables that would significantly affect the impact of the project and that is why our methodology includes a regression analysis where we are able to control for other confounding factors. Furthermore, changes in complex variables which are a result of many actors involved and that intertwined many aspects of procurement reform will be analyzed

and considered together with improvements in procurement quality and other procurement related outcomes.

5.3.2 Qualitative

Analysts entered the verbatim notes into NVivo, in which we have expert in-house capacity, to organize, code, and analyze the qualitative data. We developed a codebook informed by the 5S model and instruments (deductive) and by coding a small set of interviews to identify themes that emerged from the data (inductive). In addition, we developed structural codes about respondent and organizational characteristics. Analysis of qualitative data began with coding (i.e., flagging pieces of data) that related to a theme or concept of interest (thematic codes) or characteristics (structural codes). We assessed intercoder reliability on a random sample of texts using Cohen's kappa coefficient to improve the quality, consistency, and reliability of coding (Hruschka et al. 2004; Campbell et al. 2013). Due to resource constraints, we were not able to assess intercoder reliability on all text, which would require each text to be coded by multiple team members. The intercoder reliability was deemed sufficient for data quality and consistency. Further, we trained all coders on the codebook, held regular team meetings with all coders, and monitored coding and data analysis for quality assurance in NVivo.

Once we completed coding, the analysts conducted iterative, exploratory text analysis in NVivo to identify themes (e.g., repetition, similarities and differences, word frequency, word co-occurrence, code co-occurrence) and explore patterns, outliers, trends, and conflicts between and among respondents and organizations. The analysts used memorandums to document the emergent findings from this exploratory analysis. Next, we used a variable-oriented strategy to test and further explore the emergent findings using unit-by-variable matrices (Bernard and Ryan 2010). This variable-oriented strategy focused on how the responses about the elements of the 5S model and the program theory of change were similar or divergent across respondents, respondent and organizational characteristics, and PM Project phases. Studying variation among these features can indicate something about the nature and perhaps relative importance of different elements, or combination of elements, associated with the current state of the procurement system or procurement reform. It may also identify several paths to a similar outcome, or different paths to different outcomes. Further inductive thematic analysis may generate sub-variables of note within these features, or additional variables that contribute to the current state of organizations and reforms but are not part of the 5S model and theory of change.

6. Quantitative and Qualitative Analytic Baseline Findings

This report presents baseline findings to describe the "as-is" conditions of PSUs and practices in the public procurement system prior to exposure to the PM Project interventions. This information is key, since to detect changes at endline, we require a pre-intervention understanding of the public procurement culture/shared values, structure, systems, skills and staffing. Hence, these baseline findings in conjunction with the endline data will allow the study team to determine as precisely as possible what changes occurred over time and allow them to carry out an impact evaluation at endline. It will also help identify whether those changes occurred along the dimensions outlined in the project logic.

The baseline findings are organized in this section according to the 5S framework (Shared Values, Structure, Systems, Skills, and Staff). Results are presented as they correspond to the specific evaluation questions that governed the study design where relevant, as not all evaluation questions can be directly addressed at baseline. Some evaluation questions focus solely on post-intervention values and hence baseline information is not available for these. In addition, a description of historic SPSE data and findings for Phase 2 PSUs prior to exposure to the PM Project interventions is provided. These data shows tender information aggregated by year, procurement category, and government agency type across the years 2012-2015. There is only data available for 2015 for Phase 2 treatment and comparison PSUs. We are only able to disaggregate by treatment status for 2015 because the variable being used to identify PSUs at the tender level is only available for 2015 in our current data set. As we continue to receive data, we intend to be able to look at the trends by treatment and comparison over time if this variable continues to exist in future iterations of the data set. The baseline conditions selected for investigation are those most directly targeted for change as specified in the project logic.

The study design and data collection methods have certain limitations. The qualitative interviews and the quantitative surveys collect data regarding the perceptions of staff and key informants. Perception data are, by nature, subject to bias; therefore, the study team will assess for and note possible bias throughout all analysis and reporting. When we refer to information provided by interviewees, we are providing information collected using qualitative methods for both Phase 1 and Phase 2 PSUs. When we discuss survey results, we are only presenting statistics for Phase 2 PSUs collected and analyzed using quantitative methods.

Indeed, quantitative survey and qualitative interview data were collected from Phase 2 treatment and comparison groups, as well as the SKPDs associated with the sampled Phase 2 PSUs. Data were collected from Phase 1 PSUs and associated SKPDs using only qualitative interviews. Key informants, including LKPP, MCA-I, and PM Project contractors were also interviewed about both Phase 1 and Phase 2 PSUs. Complete detail regarding samples and response rates is contained in Section 4.6. Table 9 details the number of responses from each respondent category for each data collection instrument.

Table 9. Respondents by Instrument

Respondents		Data Collection Instrument	
		Qualitative Interview (N)	Quantitative Survey (N)
Phase 1 PSU	**Treatment**	32	
	Control	22	
Phase 1 SKPD	**Treatment**	10	
	Control	8	
Phase 2 PSU	**Treatment**	43	165
	Control	29	130
Phase 2 SKPD	**Treatment**	12	78
	Control	8	53
Key Informant Interviews		10	

It is important to note that not all respondents were able to provide answers to all qualitative interview questions; therefore, throughout the results section response rates for qualitative questions or topics are provided.

6.1 Shared Values

These results relate to the baseline status of the Phase 1 and Phase 2 treatment and control groups regarding the following evaluation questions.

- *Are there any issues related to the political economy (or other aspects) of the procurement system and its actors not addressed by the project that may have impacted the project's ability to achieve its intended results?*
- *Did the program result in a change in culture or shared values?*

The first question relates to the presence of any national or local political facilitators or barriers related to the overall goals of the project. The second question focuses on shared values and organizational culture that are supportive of reducing corruption and increasing transparency in public procurement. It also relates to the idea of shifting the mindset of procurement professionals to focus more on producing value for the government and public.

6.1.1 Overall Political Economy

The results in this section are drawn from the key informant interviews. The 10 key informants we interviewed provided their perceptions of issues related to the political economy or other external factors that may impact the project's ability to achieve its intended results. The most frequently cited issues involved LKPP's position within the government, conflicting and unclear regulations, and limited cross-ministerial coordination.

Most felt that as a new agency LKPP had limited stature and authority to advocate for the procurement system and the PM Project in situations involving competing priorities. For example, because LKPP was unable to champion a different set of competencies, the competencies for procurement staff were set using those of the ASEAN Economic Community. Those competencies are primarily administrative, which resulted in a staffing structure and pay grade scale that is inappropriately low for the technical nature of procurement work. Key

informants also noted that LKPP had too few staff with sufficient procurement expertise and that this created challenges. While LKPP's primary responsibility involves regulations and not carrying out procurement, key informants stated the lack of procurement expertise posed some challenges in LKPP's ability to understand and improve the procurement system.

Another common issue was the conflicting and unclear regulatory environment. The MOF, MOHA, and LKPP all write regulations about the same issues. Interviewees pointed out that this sometimes leads to conflicts and a lack of regulatory clarity and consistency for PSUs. An often cited example of this was the conflict resulting from a MOHA regulation that limits the number of departments and echelon civil servants. This directly conflicts with the goal of establishing permanent PSUs.

One important regulatory issue concerns whether PSUs can be independent and permanent units, although it was noted that there is starting to be some progress in changing this regulation. Regulatory barriers can also come from local or provincial governments, because they sometimes have regulations that can conflict with national regulations. It can take time for them to change regulations to reconcile with ministries because they wait for ministerial decrees that come after regulations are enacted. Interviewees also referenced the limited coordination across ministries as a constraint on the PM Project achieving its objectives.

An early challenge concerned the lack of political will to support the PM Project; however, since the inception of the project, support has increased as evidenced by the increasing numbers of MOUs supporting PSU activities, as well as increased support from governors, ministers, and high-level echelon staff. Another challenge results from the manner in which procurement responsibilities are divided in Indonesia. Procurement responsibilities are divided among different entities like the SKPD and PSU and are more rigid than in many other countries. Related to both the coordination across ministries and political will is the issue of corruption investigation and legal support for procurement staff. There is lack of standard interpretation of procurement regulations and laws to the extent that procurement staff are afraid to make decisions for fear of being investigated if they interpret regulations differently from local law enforcement. Finally, there are challenges relating to factors in Indonesia more broadly. The country is large, diverse and decentralized, so it is difficult to spur reforms across the country. There are also varying degrees of capacity throughout the country.

6.1.2 Culture and Shared Values

Establishing and committing to a shared vision can have a great effect on the ability to implement and sustain organizational changes (Kotter 1996). Although interviewers were careful to keep respondents' answers anchored in the PSUs' baseline (i.e., prior to PM Project intervention), it is possible that there was some misreporting of the Phase 1 PSU status as a result of exposure to the interventions.

PSU staff were interviewed about whether their leadership had a written strategic vision for their PSU. Table 10 provides the percentage of each that confirmed a written strategic vision.

Table 10. Qualitative Interview Vision Statement Response

PSU Sample Group		Vision Statement	Response Rate
Phase 1	PSU Treatment	55%	63%
	PSU Comparison	29%	90%
Phase 2	PSU Treatment	50%	93%
	PSU Comparison	64%	86%

Not all of those who did not confirm the existence of a written strategic plan were certain that there was not one. However, the lack of awareness indicates that the vision statement is not universally disseminated among staff. A small percentage in each groups noted that they were developing a vision statement. Two staff from PSUs that were not yet independent did not see a need for a PSU-specific vision until their status changed to independent.

6.2 Structure

These baseline findings focus on the following evaluation question:

- *What types of organizational or operational changes are taking place at the PSU level?*

In order to observe structural changes at endline, we require an understanding of some key structural issues at baseline, such as PSU permanency and independence. This will allow us to determine (to the extent possible) what organizational and operational changes occurred at the PSU level and whether those changes occurred along the dimensions outlined in the project logic model as a result of the intervention, such as permanent PSUs or pilot PSUs with draft Peraturan Daerah.

6.2.1 Permanency and Independence

Qualitative interviews with PSU management staff confirm that PSUs vary in organizational structure, staff roles, and leadership functions. Generally, interviewees reported that PSUs are led by a Secretariat and Head of the PSU. Included in the structural positions are working groups, a secretary, and the general, financial, and administrative units. However, interviewees did not describe all of these staff as part of the administrative structure of their PSU in a standard or consistent manner. Interviewees also confirmed that the reporting structure of the PSU leadership varies depending on the legal status of the PSU. Staff from both phases and groups explained that when their PSU is embedded in another office, they are responsible to that institution's leadership, such as the mayor.

One of the key structural changes that the PM Project seeks to enable is PSUs becoming permanent, independent institutions. Interviewees overwhelmingly agreed with this view and reported that it is important for the PSU to be permanent. Across all groups interviewed in both Phase 1 and 2 PSUs, no staff said permanence was not important. Staff commonly reported that permanence is important because it helps to improve the performance of PSUs. For example, in permanent PSUs, staff are full time, which several interviewees said helps staff to focus on procurement by having to report to only one agency. They noted that this improves efficiency, flexibility, and speed. Permanent status also provides other benefits such as giving PSUs control over their budget and clarity in their role. As one staff person reported, there is an interconnection between PSU's legal status and other issues like having less dedicated part-time staff, lack of qualified personnel, and reduced working group neutrality.

Table 11 provides the Phase 2 quantitative survey data results from PSU management staff regarding current legal status of each PSU. The table also provides survey results regarding percentage of management and line staff who believe the permanent status of a PSU is important.

Table 11. Legal Status of Phase 2 PSUs

	Comparison	Treatment
Ad-hoc	1	2
Permanent- attached to a ministry or government agency	5	6
Permanent- independently established	4	4
The permanent status of a PSU is important (%)	93.8	96.6
Total number of PSUs	10	12

Notes: The legal status of the PSUs was asked of just one management level employee at each PSU, so there are only 10 and 12 observations for the comparison and treatment group, respectively. The observations for the importance of permanent status are 146 and 203 for comparison and treatment, respectively.
Source: Quantitative survey.

The Phase 2 treatment and control groups each had four permanent and independently established PSUs at baseline. Of the 14 surveyed Phase 2 PSUs that are not permanent and independently established (i.e., ad hoc or attached to a ministry), nine are waiting for approval of permanency from the Indonesian Legislative Assembly/Ministry of State Apparatus and two are in the process of seeking permanent legal status.

In the following sections, qualitative interview data are provided about the PSU management staff's knowledge of the PSU structure. Also included are interview data from PSU and SKPD management and PSU staff regarding their assessment of the political support, authority, and independence experienced by treatment and comparison PSUs. A large majority of both groups in Phase 1 and 2 believed there was sufficient political support for independence and that PSUs had adequate independence and authority to conduct high-quality procurements. However, some SKPD staff felt that PSUs needed to rely heavily on the expertise of the SKPDs to do so.

A few interviewees across the Phase 1 and Phase 2 groups reported some constraints faced in achieving permanent and independent status. Challenges included regulatory constraints, unclear career paths, and the slow speed of the process. For example, a challenge cited in establishing permanent PSUs is that MOHA regulations limit the number of departments and echelon civil servants that can exist, so establishing permanent PSUs adds to the number of departments and echelon civil servants, and districts cannot exceed the quota. Interviewees from two to three PSUs in each treatment and comparison group provided reasons why their PSU has not pursued independent status or why it is difficult for PSUs to become independent institutions. For instance, some said that there was no clear and sufficient legal foundation for PSU independence. Another explained that their understanding of Peraturan Presiden was that PSUs can be permanent and attached to a ministry or government agency, but not independent institutions.

Management staff from each Phase 1 PSU were interviewed about permanency status. As seen in Table 12, of the 11 PSUs, 3 reported being permanent at baseline. The other eight were ad-hoc. Staff from two-thirds of the Phase I treatment PSUs noted that independence is

important because it reduces opportunities for intervention in the PSUs' work and decision making, such as from the SKPD.

Table 12. Legal Status of Phase 1 PSUs

	Comparison	Treatment
Ad-hoc	8	8
Permanent- attached to a Ministry or Government Agency or independently established	0	3
Total Number of PSUs	8	11

Table 13 shows that fewer Phase 1 PSUs and SKPDs than Phase 2 PSUs and SKPDs felt that they had adequate political support. Phase 1 reported adequacy of support ranges from just under half of interviewees to a bit over. Phase 2 interview results show that about 60% to 80% of interviewees agree that their PSUs have adequate support.

Table 13. Qualitative Interviews: PSU and SKPD Staff Perception of Political Support for PSU

PSU and SKPD Sample Group		% PSU or SKPD staff feel adequate political support	Response Rate
Phase 1	PSU Treatment	61%	97%
	PSU Comparison	45%	91%
	SKPD Treatment	50%	100%
	SKPD Comparison	63%	100%
Phase 2	PSU Treatment	77%	91%
	PSU Comparison	58%	83%
	SKPD Treatment	80%	83%
	SKPD Comparison	80%	63%

Some interviewees reported that there may be adequate political support from some levels of government but not others. They also noted that some regulations are unclear or contradictory, which can hinder the necessary political support. Some SKPD respondents who did not answer in the affirmative felt that they did not know enough about the specifics of the level of political support to answer.

The interview results in Table 14 show that the large majority of interviewees believe that the PSUs have adequate authority and independence to make the best procurement decisions. This was true across all groups in both phases. Several interviewees noted that the primary purpose of authority and independence is to minimize interference in the procurement process. Some interviewees also felt that there was still room for improvement. A few interviewees asserted that the level of authority and independence may be an improvement from what they had in the past, but is still limited or requires more commitment from leadership.

Table 14. Qualitative Interviews: PSU and SKPD Staff Perceptions of PSU Level of Independence and Authority

PSU and SKPD Sample Group		% PSU or SKPD feel PSU has adequate independence and authority	Response Rate
Phase 1	PSU Treatment	87%	94%
	PSU Comparison	90%	95%
	SKPD Treatment	86%	70%
	SKPD Comparison	100%	100%
Phase 2	PSU Treatment	73%	95%
	PSU Comparison	100%	90%
	SKPD Treatment	83%	100%
	SKPD Comparison	80%	63%

This was in agreement with statements made by others that that independence is not yet maximized, because the political will is new. One interviewee felt the PSUs' level of authority and independence was inadequate because they still rely heavily on SKPD for decision making.

Some of those who did not think their PSUs had sufficient independence and authority stated that there continues to be interference and that there is still some pressure felt from providers.

6.2.2 Budget Absorption and Procurement Completion

Understanding the role of budget absorption rates will be important to understanding changes in efficiency of PSU operations. While there is complexity inherent in interpreting the data, it is critical to establish a baseline from which to observe any changes. The quantitative survey results in Table 15 gathered from PSU management staff show rates of budget absorption around 90%[24]. Table 15 also shows that the majority of procurements for Phase 2 PSUs are completed on time and within three months in both treatment and comparison PSUs. Although statistical tests of significance are not appropriate given the small sample, there is a noticeable difference in the reported percentage of procurements completed on schedule. Phase 2 treatment PSUs reported a higher rate (89.1%) than the comparison PSUs (77.3%). Of the procurements with processing times greater than three months, the treatment group had a higher percentage of 12-month procurement cycles, while the comparison group had a higher percentage of 6-month cycles. From the data available it is not possible to tell whether this was due to differences in efficiency, or differences in the types of procurement. This is just one of the nuances that will need to be explored as part of the endline analysis where we will be able to control for a series of confounding variables. Both groups reported about a 6.0% level of failed procurements.

[24] It must be noted that the respondent may referred to the budget absorption from owner cost estimated for each procurement package compares to the amount of the winning bid through the e-tendering managed by the PSU. Yet, this will not reflect the total budget absorption in procurement knowing that there are many procurement types that are not going through the e-tendering. This will be investigated further during end-line.

Table 15. Phase 2 Budget Absorption and Procurement Completion Rates

	Comparison (%)	Treatment (%)
Budget absorption	90.4	88.3
Percent of procurements completed on schedule	77.3	89.1
Percent of procurements completed within 3 months	70	84.2
Percent of procurements completed within 6 months	15.1	2.4
Percent of procurements completed within 9 months	1.4	1.7
Percent of procurements completed within 12 months	1.2	11.4
Percent of failed procurements	6.6	5.8

Notes: The information in this table was asked of just one management level employee at each PSU, so there are only 10 and 12 observations for the comparison and treatment group respectively.
Source: Quantitative survey.

6.3 Systems

The PM Project logic and associated activities focus on numerous system-level changes. The evaluation question most closely associated with these activities and objectives are:

- *What types of procedural changes are taking place in the conduct of procurements?*
- *Are there changes in policies, procedures, or otherwise that could lead to quality improvements in ultimate procurement (contract) outcomes?*
- *Are there changes in policies, procedures, or otherwise that could lead to savings (financial or total lifecycle) in government procurements? How so?*
- *Are PSUs using e-catalog for standard purchases?*
- *Are PSUs using the lifecycle PMIS?*
- *Have PSUs developed their own framework contracts?*

This evaluation question focusing on the procedural change in the conduct of procurement links directly to the intermediate outcome of "[g]reater skill/knowledge about proper procurement procedures among PSU staff and other actors in procurement eco-system." That question together with the evaluation question regarding the impact of those changes on quality and overall outcomes requires that we understand the baseline perception of the extant systems and their current effect on quality and overall procurement outcomes. The same is true of the narrower question of identifying opportunities for cost savings related to system changes. In addition to addressing these larger questions, the baseline data establish the level of knowledge and engagement with the use of e-catalogs, framework contracting, and PMIS.

The PM Project also seeks to institute best practice policies and procedures that will ultimately make systems within the PSU more efficient and effective at procurement. One of the key aspects of improving the system is raising the level of knowledge of PSU staff of the overall processes involved in procurement. This is sometimes referred to as the continuum of procurement activities, of which the PSU is part. The rationale is that when PSU staff better understand all of the components of the procurement process, they are better able to coordinate with all stakeholders involved in the procurement lifecycle.

6.3.1 Public Procurement Systems, Policies and Procedures

The PM Project seeks to institute best practice policies and procedures that will ultimately make systems within the PSU more efficient and effective at procurement. One area of interest was the presence or absence of standard operating procedures and policies that support quality procurement processes. Prior to understanding whether PM Project activities can be successful in strengthening systems, it is important to assess indicators of the current strength of the system, such as the existence, awareness, and use of good business practices like standard procedures and policies that support procurement processes.

Table 16 provides Phase 2 PSU survey data that show staff's current level of awareness and use of such policies and procedures. The policies and procedures fall into seven categories: planning, scheduling and workload flow, solicitation preparation, reviewing and evaluation, awarding the contract, administering and managing the contract, and performance monitoring. Below we discuss the statistically significant differences between treatment and comparison PSUs in each category.

- *Planning:* While fewer employees from treatment PSUs report having a set of standard operating procedures and using those SOPs for planning, more report having undergone a capability assessment than employees in comparison PSUs.
- *Scheduling and Workload Flow*: Generally, employees at treatment PSUs report having more employee support mechanisms than employees in comparison PSUs such as a reward incentive program linked to management metrics and comparisons of compensation at other PSUs to ensure competitive pay.
- *Solicitation Preparation:* Employees in treatment PSUs report, on average, using a set of SOPs less for solicitation preparation than employees in comparison PSUs. In addition, Table 18 shows that past contract performance is less commonly factored into the qualification for bidders in treatment PSUs than comparison PSUs.
- *Reviewing, Evaluating, and Awarding Contracts*: Interestingly, while fewer employees in treatment PSUs report using a set of SOPs for reviewing and evaluating contracts, more employees in treatment PSUs than comparison PSUs report using a standard set of procedures for awarding contracts. In addition, more treatment PSU employees report publicly disclosing tender/contract awards although still 88% of comparison PSU employees report doing so as well.
- *Administering and Managing the Contract*: There are no statistically significant differences between treatment and comparison PSUs for using policies and procedures that fall under this category.
- *Performance Monitoring:* In general, treatment PSUs seem to engage in performance monitoring less than comparison PSUs, and this is specifically true when it comes to gauging responsiveness, fitness to purpose, and quality of procurement outcomes.

Table 16. Staff Reported PSU Policies and Procedures Staff, Quantitative Survey Results for Phase 2 PSUs

	Comparison (%)	Treatment (%)
PSU uses set of standard operating procedures	92.5	78**
Uses SOP for planning	73.6	51.2**
Has undertaken an organization capability assessment	28.3	45.2**
Has a plan to improve the competencies of staff through a structured training plan	74.1	77.6
Has strategies to reduce reliance on monopoly suppliers	55.6	56.1
Scheduling and Workload Flow		
Gather and record procurement data and have knowledge management framework	99.3	99
Has a program in place to transfer skills between staff through mentoring	57.1	62.9
Has a program in place which enables cross-training of PSU staff	59.3	63.9
Has a reward or incentive program available for PSU staff linked to performance management metrics	36.1	45.7**
Has a Career Advancement Plan that has been developed and articulated to staff	39.3	44.9
Compares compensation externally with other PSUs to ensure pay competitiveness	68.3	75.8**
Solicitation Preparation		
Uses SOP for solicitation preparation	84.5	67**
Uses market analysis techniques and/or past procurements for writing qualification criteria	79.2	79
Past contract performance is factored in the qualification for bidders	79.3	72.4*
Undertakes financial reviews of suppliers	77.7	77.8
Monitors 'blacklist' suppliers	97.9	96.0
Has a whistleblower hotline for all suppliers and staff	21.5	24.9
Reviewing and Evaluating Contracts		
Uses SOP for reviewing and/or evaluating proposals	71.6	55.7**
Applies evaluation criteria that focus on delivering value across the lifecycle of projects	97.9	97.0
Uses a standard contract format that attempts to address risk	68.3	64.8
Awarding the Contract		
Uses SOP for awarding contracts	14.9	16.3
Uses a well-documented, standard process for contract awarding and/or signing	59.2	73.9**
Publicly discloses tenders and/or contract awards	83.1	92.2**
Administering and Managing the Contract		
Uses SOP for administering and/or managing contracts	26.4	24.1

	Comparison (%)	Treatment (%)
Documents key issues in contract administration and/or shares documentation	64.8	62.8
Uses a standardized process for reviewing/providing technical inputs for contract mgmt.	76.2	76.2
Uses a standard process for debriefing all vendors	99.3	98.5
Has a written policy in place to manage conflicts of interest	16.9	19.4
Employs safeguards against fraudulent activities	72.5	70.2
Has a process in place to manage potential risk of nonperformance in awarded contracts	30.2	32.3
Has a written policy in place to manage environmental risk	9.8	13.9
Performance Monitoring		
Is engaged in procurement performance monitoring system	56.4	52.8
Uses embedded checks and balances to allow monitoring at each stage	88.3	86.2
Uses PMS to gauge timeliness	48.6	42.4*
Uses PMS to gauge efficiency	43.9	39.4
Uses PMS to gauge responsiveness	37.2	28.1**
Uses PMS to gauge quality of bidding documents	39.2	35
Uses PMS to gauge quality of bidders	33.8	30
Uses PMS to gauge procurement fitness to purpose	43.2	32.5**
Uses PMS to gauge quality of procurement outcomes	35.8	28.1**
Uses PMS to gauge fitness to purpose of procurement outcomes	37.2	31.5

*Notes: Number of observations ranges from 76-156 for the comparison PSUs and 147-234 for the treatment PSUs. The discrepancies are due to the large numbers of employees who responded that a specific policy/procedure "does not apply" to their PSU for some questions. ; p<.05 * p<.01***

Source: Quantitative survey.

As shown in the survey data table above, there are a number of categories of policies and procedures that influence PSU functioning. Here we further describe PSUs current involvement across the seven categories drawing upon the qualitative interviews with PSU staff: planning, scheduling and workload flow, solicitation preparation, reviewing and evaluation contracts, awarding the contract, administering and managing the contract, and performance monitoring.

In considering the PSUs level of involvement across the continuum of procurement activities, the study team analyzed the qualitative interview responses to understand the degree to which PSUs were involved in each stage. The data below show that PSUs are regularly involved in some stages of the procurement process, but less engaged in others. Understandably, PSU staff reported the highest level of engagement in solicitation preparation. Many were also involved planning to some degree, and the fewest were involved in the awarding and contract administration and management. This indicates that there is room to increase the PSUs' level of involvement across the continuum of procurement activities.

Planning

Across all phases and groups, interviewees differed in their understanding of planning. A large number of interviewees in most groups felt that reviewing SKPD tender proposals was part of the planning process, while others viewed the tender evaluation as a different step in the process for which they were not responsible (Table 17). PSUs that were involved in the process often had an SOP, but sometimes only had a common understanding among staff, as opposed to a formal procedure. Fewer Phase 1 comparison interviewees reporting being involved than did the other groups. Almost half of the Phase 1 comparison interviewees explicitly stated that planning is SKPD's responsibility.

Table 17. Qualitative Interviews: PSU Staff Perception of Involvement in the Planning Stage

PSU Sample Group		% PSU staff feel engaged in planning	Response Rate
Phase 1	PSU Treatment	78%	72%
	PSU Comparison	27%	77%
Phase 2	PSU Treatment	64%	84%
	PSU Comparison	60%	76%

Interviewees described the PSU's involvement as including reviewing of tender requests from SKPD, as well as involvement in various types of budgeting, such as helping SKPD develop their RUP (General Procurement Planning) and a fixed procurement schedule. Additionally, the heads of PSUs budget for the units they lead.

Only about half or fewer of respondents across all phases and groups noted that they had an SOP for the planning processes (Table 18).

Table 18. Qualitative Interviews: PSU Staff Perception of Standardized Planning Process

PSU Sample Group		% PSU staff feel PSU has standardized planning process	Response Rate
Phase 1	PSU Treatment	43%	61%
	PSU Comparison	32%	86%
Phase 2	PSU Treatment	51%	86%
	PSU Comparison	44%	62%

Some interviewees mentioned that they had an SOP in development or plans to develop one in the future. Others mentioned that they were not aware of whether or not one existed because they noted it is the workgroup's responsibility and they were not members.

Scheduling and Workload Flow

About half to two-thirds of the interviewees who responded to questions about scheduling and workflow reported having standardized procedures, but not always a written document (Table 19). The others often felt that this was either the responsibility of the SKPD or the workgroup.

Table 19. Qualitative Interviews: PSU Staff Perception of Standardized Scheduling and Workflow Process

PSU Sample Group		% PSU staff feel PSU has standardized scheduling/workflow process	Response Rate
Phase 1	PSU Treatment	63%	59%
	PSU Comparison	50%	64%
Phase 2	PSU Treatment	70%	77%
	PSU Comparison	58%	66%

Some interviewees reported that the PSU distributes packets to the workgroup and SKPD in a systematic fashion. Others either have methods for distributing packets evenly among PSU staff based on content area expertise and skill; monitor workload in SiRUP; or, have an SOP or target schedule to keep everyone on track. Many distribute the work among staff based on skill and availability

Interviewees described the challenges in planning the workload flow, including fluctuations in work and inconsistency in other departments' abilities to meet PSU deadlines. Some PSUs use Excel to track and manage workload, and others use the RUP to estimate the number of incoming bids or "followed the Perka LKPP regulations."

Solicitation Preparation

Over half to 90% of interviewees reported being involved in solicitation preparation, involving compiling and preparing documents from SKPD (Table 20).

Table 20. Qualitative Interviews: PSU Staff Perception of Involvement in Solicitation Process

PSU Sample Group		% PSU staff feel PSU involved in solicitation process	Response Rate
Phase 1	PSU Treatment	77%	81%
	PSU Comparison	60%	91%
Phase 2	PSU Treatment	60%	88%
	PSU Comparison	91%	76%

Of those involved in the solicitation preparation phase of the procurement process, most compiled and prepared documents for bidding. The documents that staff compiled and prepared usually came from SKPD. Some of these staff also worked as a consultant in an advisory capacity to SKPD.

More than half those interviewees believe that the solicitation process is standardized. Many respondents noted that the schedule determined by the PPK was a key factor in the standardization of processes and timelines. Some also noted that they considered following LKPP guidelines as a form of standardization. Reviewing, Evaluating, and Awarding Contracts

A greater proportion (just over half) of Phase 2 interviewees reported being involved in reviewing and evaluating contracts than did Phase 1 interviewees (Table 21). Across all groups, fewer than half of interviewees believed that the solicitation evaluation process is standardized (Table 22).

Table 21. Qualitative Interviews: PSU Staff Perception of Involvement in Contract Review, Evaluation, and Award Process

PSU Sample Group		% PSU staff feel PSU involved in contract review, evaluation, award process	Response Rate
Phase 1	PSU Treatment	33%	84%
	PSU Comparison	45%	91%
Phase 2	PSU Treatment	50%	84%
	PSU Comparison	59%	78%

Table 22. Qualitative Interviews: PSU Staff Perception of Standardization of Contract Review, Evaluation, and Award Process

PSU Sample Group		% PSU staff feel PSU process for contract review, evaluation, award is standardized	Response Rate
Phase 1	PSU Treatment	50%	81%
	PSU Comparison	13%	68%
Phase 2	PSU Treatment	32%	79%
	PSU Comparison	37%	65%

The most common roles of interviewees were to verify documents after submission, or to provide consultation when a mistake is made. Some respondents described the schedule as being determined by the LKPP guidelines that serve as standardization, with the caveat that those rules only apply to the SKPD domain.

A relatively small percentage of respondents reported being involved in the award process (less than half); therefore, even fewer reported having SOPs for the award process, as seen in Table 23. Of those who are involved in award activities, the work is mostly in the capacity of a consultant to the SKPDs on a need basis. Many reported that this was the responsibility of the SKPD or the PPK.

Table 23. Qualitative Interviews: PSU Staff Perception of Involvement in Contract Award Process

PSU Sample Group		% PSU staff feel PSU involved in contract award process	Response Rate
Phase 1	PSU Treatment	30%	84%
	PSU Comparison	16%	86%
Phase 2	PSU Treatment	18%	79%
	PSU Comparison	0%	72%

Administering and Managing the Contract

As with the award phase, relatively few interviewees reported being involved in the administering and managing of contracts process as shown in Table 24. Those who were involved to some degree noted that their work was primarily in archiving or consulting for contract-related issues. Many noted that these responsibilities lie with the SKPDs or PPK. Several interviewees seemed confused about what this might mean, claiming that this duty did not fall under their responsibility.

Table 24. Qualitative Interviews: PSU Staff Perception of Involvement in Contract Administration and Management Process

PSU Sample Group		% PSU staff feel PSU involved in contract admin and management process	Response Rate
Phase 1	PSU Treatment	25%	75%
	PSU Comparison	20%	91%
Phase 2	PSU Treatment	9%	81%
	PSU Comparison	24%	72%

6.3.2 Assessment of Procurement Quality and Measures

Interviewees did not have high confidence in the quality of the measures employed by the PSUs. No more than half in any group thought their PSUs' measures of procurement process and outcomes were sufficient. Many more thought that their PSU did not have any performance measurement system in place. In addition to staff's use of measures, it is important for them to understand and, ideally, improve PSU and SKPD employees' perceptions of the systems within their PSU.

Table 25 presents Phase 2 quantitative survey results showing the percentage of employees who currently have a high valuation of their PSU on a variety of measures. In general, treatment PSU employees appear less satisfied with their PSU's efficiency and quality, and especially with its fitness to purpose.

Table 25. Employee Perceptions of PSU Efficiency and Quality: Quantitative Survey Results Phase 2 PSUs

	Comparison (%)	Treatment (%)
Overall satisfaction with process ‡	74.6	66.9**
Satisfaction with quality ‡	75.0	73.3
Satisfaction with outcomes ‡	76.1	74.5
Timeliness ‡	72.9	75.4
Efficiency ‡	73.7	75.8
Responsiveness ‡	77.1	82.1*
Quality of bidding documents ‡	48.3	47.4
Average quality of bidders ‡	50.6	46.9
For goods ‡	60.4	54*
For services ‡	55.6	55.6
For construction ‡	56.0	54.9
Average quality of procurement outcomes ‡	65.9	65.1
For goods ‡	76.6	75.0
For services ‡	65.2	65.7
For construction ‡	65.0	63.2
Average fitness to purpose ‡	79.6	78.3
For goods ‡	81.8	79.2
For services ‡	79.8	78.2
For construction ‡	80.8	77

The number of observations range from 176-181 for the comparison group and 235-240 for the treatment group. p<.05 p<.01***
‡ Likert Scale Score ≥4
Source: Quantitative Survey.

Across both phases and all groups, half or fewer interviewees felt their PSU had a good process for assessing performance (Table 26). A plurality did not think their PSU had such measures, and many did not know. Some interviewees thought that assessing performance was the responsibility of other agencies, and others mentioned the MCA-I system used for assessment.

Table 26. Qualitative Interviews: PSU Staff Perception of Quality of Procurement Performance Assessment

PSU Sample Group		% PSU staff feel procurement assessment is adequate	Response Rate
Phase 1	PSU Treatment	48%	97%
	PSU Comparison	18%	77%
Phase 2	PSU Treatment	22%	95%
	PSU Comparison	18%	76%

Since SKPDs are, in some sense, a client of the PSUs, it is important to measure how SKPD employees' perceptions of the PSU change over the course of the project. Table 27 presents the quantitative survey results for Phase 2 PSUs showing the percentages of staff in treatment and comparison PSUs that agreed with a variety of statements about the accessibility of their

respective PSU and their satisfaction with it. It was not possible to conduct statistical tests on this section because in some instances there is only one staff from the SKPD interviewed. While the measures of satisfaction are generally positive across coordination, collaboration, and accuracy (low of 69.2% and high of 84.3%), there is room for improvement.

Table 27. SKPD Staff Perceptions of PSU: Quantitative Survey Results Phase 2 PSUs

	Comparison (%)	Treatment (%)
Accessibility		
Can obtain advice or assistance from PSU easily ‡	79.2	83.3
Aware of what contracts are available for use ‡	84.3	78.9
Information required for a procurement plan is available and easy to access within work unit ‡	80.8	71.1
Advised in advance of how changes by PSU will affect employee ‡	69.2	77.9
Satisfaction		
Satisfied with services provided by PSU ‡	75.5	71.1
Satisfied with the quality and accuracy of information received from PSU ‡	71.7	75.3
Contracts negotiated by PSU deliver quality and value for money ‡	72.5	76.1
Delivered goods and services accurately correspond to requirement ‡	83	84.4

The number of observations range from 51-53 in the comparison group and 76-77 in the treatment group.
p<.05 p<.01***
‡ Likert Scale Score ≥4
Source: Quantitative survey.

6.3.3 Cost Savings Opportunities

The 10 key informants interviewed about procurement changes that could lead to cost savings thought framework agreements, e-catalog, and improved staff capacity were the main changes that could lead to cost savings. Framework agreements were mentioned by informants as allowing for longer contracts instead of individual, one-time purchases. They believed that this was source of cost savings that could be realized quickly. One key informant described framework agreements as “low-hanging fruit” that could lead to cost savings and yet be fairly easy to implement. Using e-catalogs is another practice that five key informants said could lead to cost savings. Informants noted different benefits of e-catalogs including the government’s ability to negotiate bulk rates for products and greater competition to get into an e-catalog. They believed that e-catalogs would also help achieve the objective of total value for money. Auditor practices and current laws restrict procurement staff’s ability to choose the highest quality bids because legally they must choose lowest cost. However, in the e-catalog they do not have to choose the lowest cost bid, and can instead choose the highest quality.

Key informants thought that improved PSU staff capacity can lead to cost savings because it will improve overall procurement performance. One stated benefit was that staff will be able to balance the need for procuring lowest cost and highest quality goods and services. With better capacity they will be able to utilize the right procurement process and conduct better analysis prior to making procurement decisions. Other changes can also help support staff and contribute to improved performance—one is giving the procurement professionals a “good

home" in permanent units, which will enable them to focus on procurement, and the second is giving them tools like electronic systems.

Key informants reported two other changes that could lead to cost savings. They noted that a lot of cost savings actually come from the contract management process and having the right contractor complete the work. So while governments may want to show cost savings through reduced lower contract prices, the more important cost is that of the total cost of ownership in the long term. Another key informant said that overall improvements to the procurement system can result in cost savings because, while the procurement system cannot remove all corruption all the time, it could drive out all but the more sophisticated forms of corruption.

Among the SKPD staff who participated in the qualitative interviews, more than half did not think that cost overruns are a challenge, and a few said that they never happen (Table 28). One interviewee thought overruns occur because of fixed contracts. Several of those who said overruns do not occur provided interesting detail. Several explained that cost overruns technically do not happen because they avoid them by changing the scope of work for contracts if they face challenges, or they include overage costs in next year's budget. They said that they do this because budget allocations cannot be exceeded.

Table 28. Qualitative Interviews: SKPD Management Staff Perception of Cost Overruns

SKPD Management Sample Group		% SKPD management feel cost overruns are not a challenge	Response Rate
Phase 1	SKPD Treatment	57%	88%
	SKPD Comparison	67%	75%
Phase 2	SKPD Treatment	75%	80%
	SKPD Comparison	80%	83%

6.3.4 E-catalog and Framework Contracting Awareness and Use

The Phase 2 survey data showed some lower rates of familiarity with the e-catalog than did the interview data. Across the phases and groups, awareness of the e-catalog ranged from about 60% to 100%. Use of the e-catalog varied among interviews in all groups. In most groups, 60%-80% used the e-catalog system to some degree, some with regularity. Only a very small number were completely unfamiliar with the system. There was also a small group that believed the e-catalog was primarily for the SKPDs' use. Half or fewer of the interviewees had knowledge of and experience with framework contracting, which is similar to the proportion found in the Phase 2 survey data.

Table 29 presents the Phase 2 quantitative survey data for the percentage of staff at treatment and comparison PSUs who reported high levels of knowledge and use of e-catalog and framework contracts. Over all, more staff in both groups knew about e-catalogs and framework contracting than are using them. The staff from the treatment PSUs seem to be slightly more familiar with both procedures, but the differences are not statistically significant.

Table 29. Knowledge and Use of E-Catalog and Framework Contracts: Quantitative Survey Results, Phase 2 PSUs

	Comparison (%)	Treatment (%)
E-Catalog		
Knowledge in PSU ‡	73.1	77.6
Use in PSU ‡	47.9	50.9
Framework contracts		
Knowledge in PSU ‡	64.5	68.3
Use in PSU ‡	42	44.8

*Notes: Observations range from 169 to 171 for the comparison group and from 223 to 232 for the treatment group. p<.05 * p<.01**‡ Likert Scale Score ≥4*
Source: Quantitative survey.

In the survey data, knowledge of the e-catalog ranged from 73%- to nearly 78% (Table 29). Across the survey and interview data for all phases and groups, use of the e-catalog ranged from 47.9% to 100%; (Table 29 and 30), with those interviewed in the qualitative interviews reporting higher levels of use. . Indeed among interviews, only a very small number were completely unfamiliar with the system. There was also a small group that believed the e-catalog was primarily for the SKPDs' use.

Table 30. Qualitative Interviews: PSU Staff Perception of E-Catalog Use

PSU Sample Group		% PSU staff who have used the e-catalog	Response Rate
Phase 1	PSU Treatment	64%	78%
	PSU Comparison	82%	82%
Phase 2	PSU Treatment	72%	100%
	PSU Comparison	100%	90%

Half or fewer of the interviewees had knowledge of framework contracting, which is somewhat less than that shown in the Phase 2 survey data (Table 31). Approximately half or less had experience with framework contracting, which is similar to that found in the Phase 2 survey data.

Table 31. Qualitative Interviews: PSU Staff Knowledge of Framework Contract System

PSU Sample Group		% PSU staff knowledgeable about or have used the framework contract system	Response Rate
Phase 1	PSU Treatment	46%	81%
	PSU Comparison	50%	91%
Phase 2	PSU Treatment	49%	91%
	PSU Comparison	45%	69%

Several interviewees felt the current framework contracting system is helpful and makes procurement easier. However a small group also felt that they had no use for the contract system due to problems or lack of knowledge within the PSU.

6.3.5 Awareness of an MIS and Awareness of the New PMIS

The Phase 2 quantitative survey data show that about 40% or more of respondents use an MIS to manage tenders, evaluations tender functions, vendors, planning analysis, reporting, and e-catalog functions. An MIS was used the most for evaluation and tender functions. It was used the least for purchasing and contract management. Overall awareness of the new PMIS was explored in the interviews with PSU staff. Unlike the results provided in the survey, the interviewees indicated that awareness was quite low. The greatest awareness was about the forthcoming SPSE version 4.0.

Table 32 presents the quantitative survey results for Phase 2 PSUs showing what activities the PSU uses an MIS for and whether they are aware of and have used any aspect of the new PMIS being developed. In general, the uses of a MIS are relatively balanced across comparison and treatment PSUs. However, while employees from treatment PSUs report using an MIS for vendor management and reporting less than employees from comparison PSUs, more treatment employees have used any aspect of the new PMIS being developed by the program.

Table 32. Staff Reported MIS Activities in PSU: Quantitative survey results Phase 2 PSUs

	Comparison (%)	Treatment (%)
Current MIS Uses		
to manage tenders	41.0	43.6
to manage evaluations	79.2	76.1
to manage tender functions	77.0	77.8
for vendor management	39.9	37.0
for planning	52.5	50.6
for analysis	50.3	47.3
for reporting	63.4	60.1
for purchasing	31.7	32.5
for e-catalog functions	63.4	68.3*
for contract management	28.4	30.5
New PMIS		
Aware	79.6	81.5
Used any aspect	39.0	47.1***

*Notes: Observations for the comparison group range from 159-183 and for the treatment group 204-243. p<.05 * p<.01** Source: Quantitative survey.*

Overall awareness of the new PMIS was explored in the qualitative interviews with PSU staff. Unlike the results provided in the survey, the qualitative interviewees indicated that awareness was quite low (Table 33). The greatest awareness was about the forthcoming SPSE version 4.0, but most responded that while the system has been upgraded they have not used it yet.

Table 33. Qualitative Interviews: PSU Staff Awareness of PMIS

PSU Sample Group		% PSU staff aware of PMIS	Response Rate
Phase 1	PSU Treatment	33%	72%
	PSU Comparison	20%	68%
Phase 2	PSU Treatment	48%	77%
	PSU Comparison	39%	62%

6.3.6 Challenges in the Procurement Process

When asked about challenges, there was an approximately 90% response rate among all PSU groups in both phases. The most frequently cited challenge was that coordination with the SKPD was difficult. Three of the groups had 26% or more interviewees who identified this challenge. In one of the groups this challenge was noted by 14% of the interviewees. Between 13% and 19% of interviewees felt the most challenging portion of the procurement process was in the actual evaluation and tender of the contract. Several noted that intervention was one of those challenges. Documentation was identified as a challenge by 14%-19% of interviewees. Other challenges mentioned included poor human resources, lack of leadership, time to complete the procurement process, planning, and communication. In the four groups 33%, 22%, 8%, and 3% of interviewees did not think there were challenges with the job.

6.4 Skills

These findings consider the baseline status of the Phase 1 and Phase 2 PSU staff's level of knowledge and skill relative to what is needed to successfully adopt the PSU model proposed by the PM Project. The evaluation question is stated as:

Has the procurement knowledge and skill of trainees improved?

This evaluation question links directly to the intermediate outcome of "[g]reater skill/knowledge about proper procurement procedures among PSU staff and other actors in procurement eco-system." To determine the types of skills and knowledge that are most relevant, the study team drew upon two sources: the PSU Procurement Skills Training and Mentoring activities and the expert opinion of the key informants. The data used to assess the baseline status of PSUs are a combination of the assessments provided by the key informants and results of the PSU process knowledge test contained within the survey administered to the Phase 2 treatment and comparison groups.

6.4.1 Required Skills

We interviewed 10 key informants and asked them which skills they believed PSU staff needed to develop most. The primary skills that key informants reported need improvement are professional procurement technical knowledge and analytic skills, as well as judgment that extend beyond strict regulatory compliance. Half of the interviewees specifically identified developing managers' and staffs' procurement technical knowledge and analytic skills as critical to improving procurement outcomes. For instance, one interviewee explained that some procurement functions such as creating owner estimates and writing legal documents demand advanced knowledge and expertise; therefore, staff require the relevant in-depth training.

Several interviewees explained that procurement decisions are not always clear-cut, so staff need to have the expertise and confidence necessary to interpret a regulation and apply their own judgement. It was also noted that training is equally important for auditors because they too need to shift their understanding of procurement to allow PSU staff to make awards based on value for money instead of lowest cost. Gathering these skills and developing judgement are also required in order to identify and manage risk in procurement.

Interviewees reported that several other skills are important for PSU staff to improve the efficiency and quality of their work. A strong understanding of the entire procurement process is necessary in order to improve both the quality and speed of their decision making. To achieve better quality outcomes, staff also need to be more proactive in the procurement process. Customer service skills were also identified as important for improving relationships with stakeholders and stakeholders' perception of PSUs so the stakeholders feel that PSUs are serving their needs. Negotiation, leadership, communication skills, and management skills were also reported as important skills that need improvement.

6.4.2 Baseline Knowledge of PSU Staff

The trainings provided to PSU staff during the project were designed to better the employees' skills and knowledge of procurement. According to the project logic, greater skill/knowledge about proper procurement procedures will ensure a more efficient procurement process with better preforming contracts.

To measure respondents' knowledge, the Phase 2 PSU baseline survey included a quiz on procurement procedures. The knowledge test included 18 knowledge questions which were reviewed and approved during the evaluation design phase. The questions draw directly from knowledge questions, provided to Abt by the leaders of the PSU Procurement Skills Training and Mentoring contract team, which the project uses to assess participants in the training. This module is provided in Annex 9.7.

Table 34 presents the quantitative survey results for Phase 2 PSUs at baseline. The mean quiz scores and the distribution of scores from comparison and treatment were relatively similar, with staff from the treatment group scoring slightly higher in general.

Table 34. PSU Procurement Knowledge Skills Quiz Results: Quantitative survey results Phase 2 PSUs

	Comparison (%)	Treatment (%)
Mean quiz grade	51.8	54**
Percentile Distributions		
20	44.4	46.3
40	50.0	51.9
60	55.6	57.4
80	61.1	61.1
max	79.6	83.3

*Notes: Observations for the comparison and treatment groups were 181 and 242 respectively. p<.05 * p<.01***
Source: Quantitative survey.

These scores demonstrate the need for the procurement skills training and mentoring. The low averages within each percentile establish a baseline with a great deal of room for improvement. To try to isolate areas of weakness and strength addressed by the quiz, Table 35 lists the top five correct and bottom five incorrect answers to the knowledge quiz.

Table 35. Top Five Correct and Bottom Five Incorrect Answers

Top 5 Correct Answers		Bottom 5 Incorrect Answers	
Comparison	**Treatment**	**Comparison**	**Treatment**
PT18. True or False: One of the benefits of monitoring performance is that it gives the contractor an opportunity to make minor adjustments before major problems occur	**PT02.** True or false: It is good practice to document evaluation findings and the basis for award	**PT07.** Which phase of the Procurement Process is Bid Receipt, Opening and Evaluation conducted during?	**PT16.** True or False: Managing requirements decreases the likelihood of a product being delivered on time and within budget constraints.
PT01. Which of the following is not a fundamental principle of public procurement?	**PT18.** True or False: One of the benefits of monitoring performance is that it gives the contractor an opportunity to make minor adjustments before major problems occur	**PT16.** True or False: Managing requirements decreases the likelihood of a product being delivered on time and within budget constraints.	**PT07.** Which phase of the Procurement Process is Bid Receipt, Opening and Evaluation conducted during?
PT02. True or false: It is good practice to document evaluation findings and the basis for award	**PT01.** Which of the following is not a fundamental principle of public procurement?	**PT04.** Which of the following is NOT advised when developing a budget?	**PT12.** True or False: Framework agreements decrease competition leading to higher prices for goods/services.
PT13. Which of the following are examples of risks resulting from inaccurate budgeting? (check all that apply)	**PT13.** Which of the following are examples of risks resulting from inaccurate budgeting? (check all that apply)	**PT12.** True or False: Framework agreements decrease competition leading to higher prices for goods/services.	**PT08.** Which of the following stakeholders are not involved in the evaluation process?
PT09. Costs received from a contractor must be _____ before they can be accepted by the SKPD budget holder	**PT14.** Direct costs, indirect costs, and profit are?	**PT08.** Which of the following stakeholders are not involved in the evaluation process?	**PT05.** Which one of the following is NOT a solicitation document?

The questions that treatment and comparison survey respondents most often answered correctly were highly concordant. The topics focused on were documentation of evaluation findings, use of monitoring to proactively address errors and risks resulting for inaccurate budgeting. The areas in which they did most poorly were also concordant. Those topics were the effects of requirements management of timeliness and cost, ordering of procurement process steps, the effect of framework agreement on competition and price, and stakeholder involvement in the evaluation process.

The areas of poor test performance correspond with the more advanced modes of practice that the PM Project seeks to develop in PSU staff. These include the practices of framework contracting, proactive requirements management, greater involvement of stakeholders, and a broader involvement in and knowledge of the different stages of the overall procurement process.

6.5 Staffing

This section addresses several questions relevant to the intended organizational focusing on staffing:

- *Are staff now permanent staff?*
- *Are trained or "permanent" staff retained?*
- *Do staff seem committed to and engaged in pursuing a procurement career path?*
- *Was there a gender inclusive strategy for recruiting procurement staff?*

The PM Project intends to increase the number of permanent PSUs and to develop a workforce of permanent and functional staff. PSU part-time or full-time staff are staff from another institution who have an assignment decree to work for a PSU but still report to and are listed in the originating institution's payroll. These could either be civil servants or contract-based staff. PSUs with permanent status usually have full time staff assigned to them. PSU functional staff are civil servants assigned as government procurement officials' specialists to perform government procurement processes. These individuals have full rights and authorities as governed by public procurement law and regulations. Structural staff are those who hold positions such as the Head of the PSU, Secretary, and administrative supports (management).

To understand the likelihood of successful transition to the desired staffing roles, baseline data are necessary to determine the pre-intervention level of staffing by type (e.g., full/part -time, functional). It is also important to assess the procurement fields' interest in, and sense of importance of, these staffing roles and models to understand the level of support for, or resistance to, such changes. Equally important is determining the degree to which these roles are available to women as well as men. Whether staff remain in these roles will affect PSUs' long-term institutional capacity; therefore, staff were surveyed and interviewed about their level of interest in pursuing a public procurement path. It is important to note that staff's permanency status also relies on the head of the PSU or agency (if the PSU is not permanent). The evaluation will be sure to incorporate this into endline data collection and control for it during analysis to be sure the decision making of the head of the PSU does not bias the results.

6.5.1 Staffing Levels

Table 36 presents quantitative survey data concerning PSU staffing levels and characteristics for the Phase 2 treatment and comparison groups. Panel A provides staff characteristics such as gender, average years in position, experience, education level, salary, appointment status, and intent to fulfil appointment. Panel B provides averages of staffing levels stratified by full/part-time, permanency, and functional status, as well as gender. With the exception of salary and length of appointment, staff characteristics are similar across the groups.

Table 36. Characteristics of Phase 2 Staff and PSUs: Quantitative Survey Results

	Comparison	Treatment
Panel A: Staff Characteristics		
Gender of Respondent (% male)	78.7	80.2
Number of years in current position	2.7	2.8
Number of years of experience	6.5	6.5

	Comparison	Treatment
Percent completed college/university	95.1	97.1
Annual salary (USD)	6,132	5,160**
Has an appointment (%)	98	95.6
Length of appointment (years)	1.7	2.1**
Intends to stay for entire length of appointment (%)	92.3	92.1
Panel B: PSU Characteristics		
Number of full time staff	14.2	18.8
Number of part time staff	18.7	12.9
Number of permanent staff	11.5	14.9
Number of functional staff	3.1	9.1
Number of female staff	5.8	6.5

*Notes: In Panel A, observations for the comparison group range from 138-147 and the treatment group 199-203. Statistics in Panel B were reported by one management employee from each PSU, therefore, there are 10 comparison observations and 12 treatment observations. p<.05 * p<.01***
Source: Quantitative survey.

Staff in Phase 2 treatment PSUs tend to earn, on average, a significantly lower salary; however, they have significantly longer position appointments. It is notable that while employees in treatment PSUs are paid less than employees in comparison PSUs, they report their PSUs engage in salary comparison more often to ensure fair pay. Over 90% of employees in both treatment and comparison PSUs have an appointment and intend to stay for the entire length of their appointment.

Panel B data are reported by one management staff for each PSU; therefore, there are only 22 total observations and it is not possible to conduct statistical tests on the difference in means. While the Panel A staff characteristics are similar, Panel B shows that there are notable difference in the averages of staffing level and type. The treatment group have a majority of full-time staff while the comparison group has a majority of part time staff. In fact, the full/part-time balance is nearly a mirror opposite. The treatment group also has larger average numbers of permanent and functional staff than the comparison groups.

The qualitative Phase 1 interview data show similar staffing characteristics and patterns as the Phase 2 survey data (Table 37). Two notable differences are the much larger number of years of experience in Phase 1 than Phase 2, and the lower percentage of female staff in the Phase 1 comparison group.

Table 37. Characteristics of Phase 1 Staff: Qualitative Interview Results

	Comparison	Treatment
Number of full time staff	12.50	19.04
Number of ad-hoc staff	12.75	11.64
Number of permanent staff	11.63	14.73
Number of functional staff	4.50	7.00
Number of years of experience	13.75	9.64
Number of female staff	3.4	5.1

6.5.2 Gender Inclusivity

The evaluation is addressing gender inclusivity in two ways: by collecting data on the distribution of male and female employees within the PSUs and their perceptions of the gender inclusivity of the recruitment process, namely whether the PSU actively recruits women. Tables 36 and 37 show that the PSUs are staffed predominantly by men. Detailed analysis of the survey data was conducted by gender on the gender inclusivity of PSUs. Survey respondents were asked to rate the level of gender inclusivity for appointing female staff. They were asked to use a five-point scale where higher numbers indicated higher levels of inclusivity. The median score for both males and females was three (3), indicating while that while there is inclusivity, there is also significant room for improvement.

For an unknown reason, the qualitative interviews experienced a low response rate to the question of gender inclusivity in PSUs (45%-56%), indicating response bias. However, among all interviewees only one person (male) perceived a lack of inclusivity for women. All of the female interviewees reported that they thought the PSUs were gender inclusive. A couple of interesting observations were communicated by PSU staff. One interviewee mentioned that the women in their PSU had all been transferred to other units, possibly because of the risky nature of the work. Another interviewee mentioned that the number of women registered for the certification exam had been decreasing.

6.5.3 Level of Permanent Staff

Majorities of both Phase 1 and 2 PSUs stated that they intended to increase full-time and functional staff positions. In most cases, these were fairly large majorities of the PSUs in both the treatment and comparison groups (Table 38). The only exception was among the Phase 2 treatment group, in which nearly half planned to increase these positions.

Table 38. Qualitative Interviews: PSU Staff Intention to Increase Full-Time and Functional Staff

PSU Sample Group		% PSU staff plan to hire additional full-time and functional staff	Response Rate
Phase 1	PSU Treatment	59%	100%
	PSU Comparison	64%	93%
Phase 2	PSU Treatment	46%	89%
	PSU Comparison	63%	95%

Some interviewees noted that part-time roles limit the time and attention staff can spend on their PSU tasks. Many management staff across phases and groups looked forward to having more full-time staff with the requisite time to perform their required duties well. About a third of management staff was interested in the degree to which having more full-time staff could increase staff's focus on job responsibilities. They hoped it could and would increase the speed of the procurement process and coordination across the PSU.

6.5.4 Perception of/Interest in Pursuing a Procurement Career Path

Table 39 shows Staff Perceptions of Procurement Career results from the Phase 2 baseline quantitative survey. The Phase 2 treatment group is more likely to feel that a career in public procurement is desirable (63.5% vs. 48.3%) and to pursue a procurement career path (84.7%) than the comparison group (76.6%). It is interesting that this is so, given that the treatment group feels less supported administratively and legally than the comparison group (49.3% vs. 59.9%), and finds the salaries less competitive than does the comparison group (20.1% vs. 32.6). Less than a quarter of either group believes that procurement has a high professional stature; however, a high percentage of both groups believes it is important to have permanent/functional staff in PSUs.

Table 39. Phase 2 Staff Perceptions of Procurement Career: Quantitative Survey Results Phase 2 PSUs

	Comparison (%)	Treatment (%)
A career in public procurement is desirable ‡	48.3	63.5**
Intends to make a career in public procurement ‡	76.6	84.7**
Pay in public procurement is competitive ‡	32.6	20.1**
Public procurement has high perceived professional stature ‡	22.4	24.8
It is important to have permanent/functional staff ‡	93.8	88.2**
The process for appointing new staff is gender inclusive ‡	33.8	43**
Feels supported administratively and legally ‡	59.9	49.3**

Notes: observations for the comparison group range from 138-147 and the treatment group 200-203.
*p<.05 * p<.01***
‡ *Likert Scale Score ≥4*
Source: Quantitative survey.

Through the qualitative interviews, the Phase 1 and 2 treatment group interviewees expressed different levels of perception regarding the desirability of a public procurement career. About one-third of treatment interviewees report that a public procurement path was desirable; however, more than half of comparison interviewees thought so (Table 40). This is much less than the percentage reported from the Phase 2 survey data for the treatment group, but similar for the comparison group (Table 39).

Table 40. Qualitative Interviews: PSU Staff Perception of Desirability of Procurement Career

PSU Sample Group		% PSU Staff Who Find Procurement Career Desirable	Response Rate
Phase 1	PSU Treatment	30%	94%
	PSU Comparison	56%	82%
Phase 2	PSU Treatment	53%	79%
	PSU Comparison	52%	86%

A little over 40% of Phase 1 treatment staff intended to pursue a procurement career, and over 50% of comparison group did. Among the Phase 2 interviewees, over 80% of staff reported that they intend to pursue a procurement career (Table 41). Reasons for pursuing a public procurement path varied among the interviewees. Some mentioned that they genuinely love and enjoy their job, while several civil servants felt that their career in public procurement is part of their duty, which they feel obligated to perform. Reasons provided for not pursuing the career path included low compensation, a lack of legal protection and support, and the lack of clarity regarding the future of their organizations. Consistently across phases and groups, interviewees pointed to the risky nature of the job as lowering desirability in the public's mind (as well as their own).

Table 41. Qualitative Interviews: PSU Staff Intention to Pursue Career in Procurement

PSU Sample Group		% PSU Staff intend to pursue procurement career	Response Rate
Phase 1	PSU Treatment	42%	81%
	PSU Comparison	56%	95%
Phase 2	PSU Treatment	83%	93%
	PSU Comparison	86%	97%

6.5.5 Staff Retention

The majority of all PSU staff reported that they intend to commit to their position at the PSU for the entire length of their position. The lowest rate of intent to stay was among the Phase 2 comparison group (61%). The rate among the rest of the PSU staff interviewed was 74%-90% (Table 42).

Table 42. Qualitative Interviews: PSU Staff Intention to Remain in Current Role

PSU Sample Group		% PSU Staff intend to remain in current role	Response Rate
Phase 1	PSU Treatment	74%	97%
	PSU Comparison	90%	95%
Phase 2	PSU Treatment	85%	95%
	PSU Comparison	61%	97%

The majority of interviewees across phases and groups who intended to stay felt a sense of obligation as a civil servant or their mandate from the district. Some reported that they were "ready" to "follow" and "obey" their leaders, but that it is not always a "choice." Others intended to stay because they truly enjoy the position. Of the treatment group staff who expressed a desire to pursue a different job, some wanted to leave because their technical interests did not

align with procurement (e.g., engineering). Other reasons included concern that PSUs had an uncertain future, level of risk, difficulty of the work, and lack of opportunity for promotion.

6.6 Overall Evaluation Questions

We are unable to tackle most of the overall evaluation questions since most of these can only be assessed at endline. One of the exceptions is perceptions of corruption, bias, collusion and lack of transparency in the procurement system. One of the ways in which the PM Project aims to effect organizational change is by reducing perceptions related to corruption, bias, and collusion and increasing perceptions of greater transparency. It must be noted that the findings presented in this report represent only respondents' perceptions and may be subject to social desirability or a bias in the response about the level of corruption in one's own workplace in comparison to the larger national environment.

6.6.1 Perception of Corruption, Bias, Collusion, and Lack of Transparency

As part of the Phase 2 survey, treatment and comparison groups were asked to provide their assessment of the presence of corruption, bias, collusion and lack of transparency in public procurement at the national level and within their PSU. The terms "corruption, bias, collusion, and transparency" were not defined for survey respondents; each had to provide their own judgement as to the definitions.

Table 11 presents the baseline Phase 2 quantitative survey results. Panel A provides the percentages of staff who perceived corruption, bias, collusion, and transparency in the procurement process at the national and PSU level. Survey respondents were asked to use a Likert scale to rate the level of each factor on a scale from one to five where one (1) indicates that it never happens, and five (5) indicates it always happens. There are no statistically significant differences between the treatment and control groups for corruption or bias at either the national or PSU levels. However, staff perceive much less corruption and bias within their PSUs than at the national level, as shown in the differences in both the perception of *any frequency* of these factors and a *high frequency* of these factors. There is, of course, a possibility of bias in the response about the level of corruption in one's own workplace in comparison to the larger national environment. Focusing on the greater frequency of corruption, the data show a large difference between the levels within the PSU and at national level (corruption ~3%-4% vs. ~19%-21%; bias ~7% vs. ~17%-19%). Although the levels of perceived corruption and bias are similar at the national level (~17% - 21%), staff feel that corruption is half as prevalent as bias, at the PSU level (~3.5% vs. ~7%).

There were statistically significant differences between the treatment and comparison group responses regarding high frequency of collusion and lack of transparency at the national level, but not at the PSU level. At the national level, the treatment group perceived a greater level of collusion (24.3%) than the comparison group (16.9%). Both groups estimated much lower rates of collusion at the PSU-level (~1%). Lack of transparency (at any level) was reported as occurring by nearly two-thirds or more at the national level and one-third or more at the PSU level. However, across both groups, high rates of lack of transparency were reported by 7.5% or fewer respondents. This is an interesting finding given the belief that increased transparency leads to more ethical practices.

Table 43. Perceptions of Corruption, Bias, Collusion, Transparency, and E-Procurements

		Comparison (%)	Treatment (%)
Panel A. Perceptions of:	**Within**		
Corruption	**Indonesia**		
	Any†	92.2	95.8
	Median (=3)	46.7	53.2
	High level‡	18.6	21.3
	PSU		
	Any †	51.9	45.3
	Median (=1)	48.1	54.7
	High level ‡	3.2	3.7
Bias	**Indonesia**		
	Any †	83	92.1
	Median (=3)	39.4	47.4
	High level	17	19.1
	PSU		
	Any †	54.5	57.2
	Median (=2)	30.9	34.5
	High level ‡	6.7	6.6
Collusion	**Indonesia**		
	Any †	89.8	95
	Median (=3)	41.6	42.7
	High level ‡	16.9	24.3**
	PSU		
	Any†	55.2	54.5
	Median (=2)	34.4	34.2
	High level ‡	4.3	5
Lack of Transparency	**Indonesia**		
	Any †	65.3	71.4
	Median (=2)	30.1	34.8
	High level ‡	4.6	7.5*
	PSU		
	Any †	34.3	37.3
	Median (=1)	65.7	62.7
	High level ‡	1.1	1.3
Panel B. Perceptions of E-procurements			
Increase Transparency			
	Any†	100	100
	Median (=5)	67.6	72.6
	High level ‡	93.9	95.8

		Comparison (%)	Treatment (%)
Reduce Opportunity for Corruption			
	Any †	99.4	100
	Median (=5)	63.9	67.6
	High level ‡	91.1	92.9

*Notes: Number of observations ranges from 134-146 for the comparison group and 182-199 for the treatment group. p<.05 * p<.01***
†Likert Scale Score ≥2; ‡ Likert Scale Score ≥4
Source: Quantitative Survey.

Panel B of Table 43 presents the percentage of staff who agree with two statements about e-procurements and their ability to be more transparent and reduce corruption. The data show that the majority (>90%) believe that e-procurement will both increase transparency and reduce the opportunity for corruption.

The qualitative interviews with PSU treatment and control groups in both phases, as well as SKPD, confirmed that a high proportion of staff perceive corruption, bias, and collusion in Indonesia's public procurement system (PSU: 70%-88%; SKPD: 60%-90%) as shown in Table 44.

Table 44. Qualitative Interviews: Staff Perception of Corruption, Bias, and Collusion

PSU Sample Group		% Staff	Response Rate
Phase 1	PSU Treatment	81%	97%
	PSU Comparison	75%	95%
	SKPD Treatment	77%	90%
	SKPD Comparison	60%	100%
Phase 2	PSU Treatment	70%	88%
	PSU Comparison	88%	90%
	SKPD Treatment	91%	92%
	SKPD Comparison	82%	92%

Only a small percentage believed that these activities were diminishing at baseline. However, within all the PSU interview groups, more than two-thirds believe that it is possible to reduce collusion, corruption, and bias through organizational, structural, and systems change. About one third of the interviewees in one group who felt that corrupt practices exist, attributed them to lack of knowledge or competency in the procurement process. A small number of interviewees felt that current rules and regulations make it impossible for corruption to occur.

6.7 SPSE data Baseline Findings

As with the baseline findings from the data collected by this project, the findings from administrative data (SPSE) are organized according to 5S framework and linked to specific evaluation questions. Only a small set of the evaluation questions can be addressed with this data set. Furthermore, some of the 5S framework items cannot be addressed at all (i.e. Shared Values and Staff) given that they involve individual-level opinions or information, which are not available in the data. The SPSE data baseline findings aim to establish trends in PSUs e-tenders prior to exposure to the PM Project interventions; however, what we are able to present is limited by the quality of the data. We have been able to disaggregate the data by treatment

and comparison groups only starting in 2015 and only for lower levels of government (e.g. lower than Ministries), since the PSU ID indicator was only available for this time period and lower government levels. This section shows tenders' information aggregated by year, procurement category (procurement of goods, construction works, consultancy services for business entities and other services), and government agency type[25]. It is important to note that while individual consulting services is another procurement category provided, (20 in comparison PSUs and 1 in treatment), that it is not possible to present means and statistical significance tests for the outcomes used. Therefore, this category is omitted from almost all figures in this section.

Before showing results it is key to understand that, as with the survey data collected by the team, the outcomes in the administrative data will not be analyzed in an isolated way since this could lead to conflicting results. Outcomes such as budget execution and efficiency in procurement execution (as exampled by reduction in time allotted to evaluate bids or choose bid winners for e-procurements) could be impacted by a large array of confounding variables that would significantly affect the impact of the project. Hence our methodology includes a regression analysis where we are able to control for other confounding factors. Furthermore, changes in complex variables which are a result of many actors involved and that intertwined many aspects of procurement reform will be analyzed and considered together with improvements in procurement quality and other procurement related outcomes.

In addition, remember that for ITS analysis, the implicit assumption is that the pre-treatment trends in the treatment and comparison group are allowed to be statistically significantly different. Similarly, the outcomes at baseline are allowed to be statistically significantly different across treatment and comparison PSUs. These differences will be accounted for by the methodological approach.

6.7.1 Structure

These baseline findings focus on the following evaluation question:

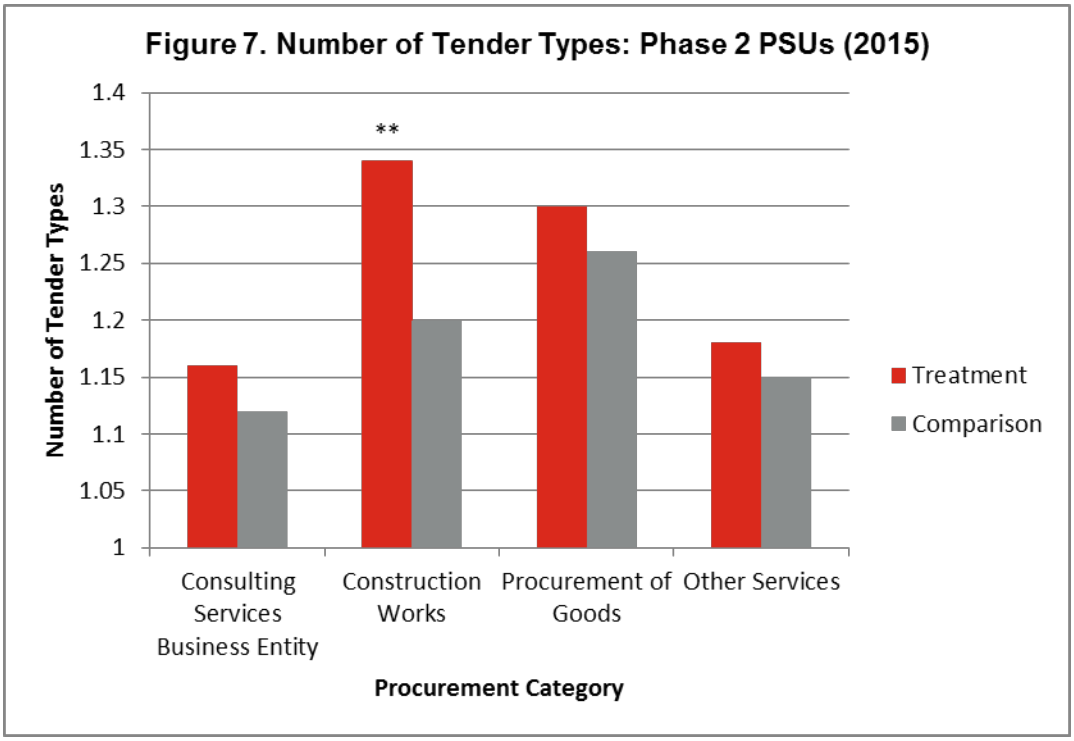
- *What types of organizational or operational changes are taking place at the PSU level?*

Just as with the primary data collected, when analyzing administrative data in order to observe structural changes at endline, we require an understanding of key structural issues at baseline. In this case, we need to know the number of tender types by procurement category and government agency type across time. This information is portrayed in Figure 6 and Table 46.

Number of Tender Types

Figure 7 presents the mean number of organizing tenders by procurement category for 2015. Across all four procurement categories, Phase 2 treatment PSUs have more tender types than Phase 2 comparison PSUs, although the difference is only statistically significant in construction procurements.

[25] More detail on the variables used in this analysis can be found in Annex 9.8.



*Notes: * p<0.05 ** p< 0.01. This figure includes 6,134observations. The number of organizing tenders is an ETL Calculation by the data team in Indonesia.*

Table 45. Mean Number of Tender Types by Agency Type

Agency Type	2015
BHMN (*Badan Hukum Milik Negara*, state owned legal entity)	1.3
BUMN (*Badan Usaha Milik Negara*, state owned enterprise)	1.2
Department	1.2
Attorney General / TNI / Polri	1.2
The State Ministry	1.3
Health	1.4
Other	1.2
Non Departmental Government Institutions	1.2
Local Government	1.2
District Government	1.2
City Government	1.2
Provincial Government	1.2
Central Government	1.3
Secretary General of the Commission	1.2
The Secretary General of State Agency	1.3

Notes: This table includes 155,298 observations. The number of organizing tenders is an ETL Calculation by the data team in Indonesia. This table does not show the agencies BUMD (Badan Usaha Milik Daerah, state owned enterprise owned by a subnational government entity)*, Coordinating Ministry, Finance, Construction, Tourism, Broadcasting, and Industry. They were dropped because they do not*

have at least 50 observations every year. This is the case for all tables with exception for the one presenting the number of tenders by government agency type and procurement category at the very end of this section.

Table 45 shows the mean number of tender types by agency type for 2015 for all PSUs included in the data, not just those that are part of the Phase 2 treatment and comparison groups (as in Figure 7). According to Table 45, there is not much variation in the mean number of tender types across agency types, ranging from about 1 to 1.5 tender types per year.

6.7.2 Systems

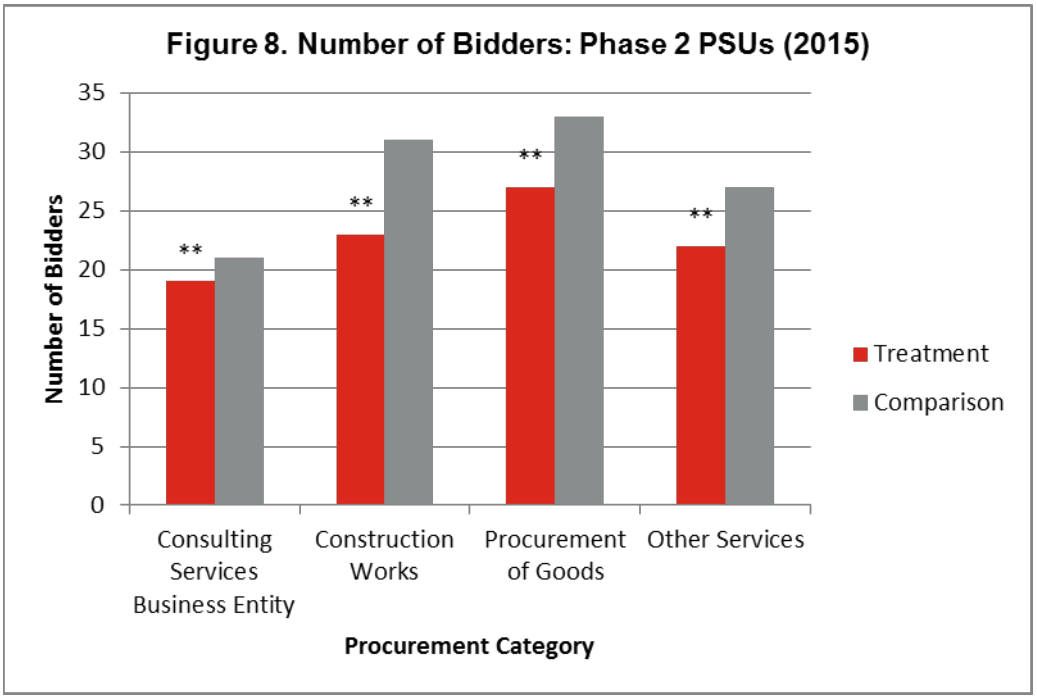
These baseline findings focus on the following evaluation question:

- *What types of procedural changes are taking place in the conduct of procurements?*
- *Are there changes in policies, procedures, or otherwise that could lead to quality improvements in ultimate procurement (contract) outcomes? How so?*
- *Are there changes in policies, procedures, or otherwise that could lead to savings (financial or total lifecycle) in government procurements? How so?*

The main variables that will help us answer these questions are related to the number of bidders, the duration of each procurement and the amount offered by bidders.

Number of Bidders

Figure 8 shows the number of bidders by procurement category in 2015.



Notes: This figure includes 6,134 observations. Number of participants was capped at 250 as more than that seemed unreasonable and likely inaccurate. The number of procurement participants is an ETL Calculation by the data team in Indonesia.

The comparison Phase 2 PSUs have consistently, and statistically significantly, more bidders than the treatment Phase 2 PSUs. For both groups, however, their relative number of bidders is similar across the procurement categories. This means that for both, business consulting services has the last number of bidders, and procurement of goods has the most. Table 46 shows the mean number of bidders across time by agency type for all PSUs in 2015.

Table 46. Mean Number of Bidders by Agency Type

Agency Type	2015
BHMN	26
BUMN	24
Department	32
Attorney General / TNI / Polri	16
the State Ministry	27
Health	23
Other	27
Non Departmental Government Institutions	30
Local Government	23
District Government	23
City Government	28
Provincial Government	31
Central Government	33
Secretary General of the Commission	29
the Secretary General of State Agency	33

Notes: This table includes155,195 observations. Number of participants was capped at 250 as more than that seemed unreasonable and likely inaccurate. The number of procurement participants is an ETL Calculation by the data team in Indonesia.

The mean number of participants is pretty similar across agency types, ranging from about 20-30 participants. The attorney general agencies have the lowest across the years, ranging about 16-18 participants. A higher number of bidders indicates more competition, which ideally yields better procurement outcomes and lower costs.

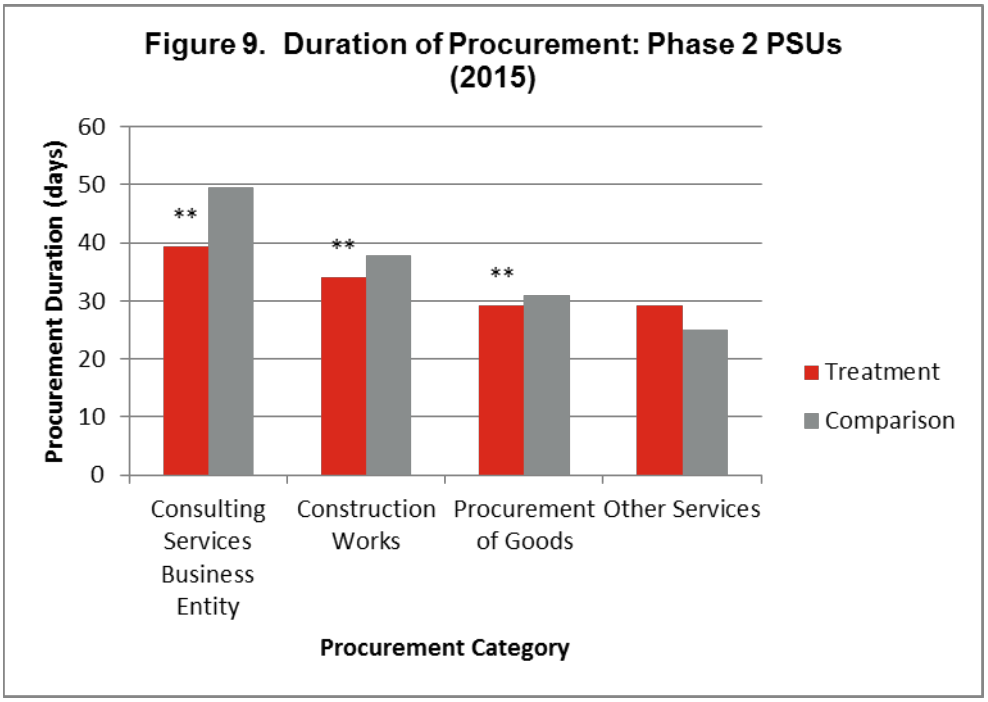
Procurement Duration

Procurement duration was calculated for this baseline report as the as the time elapsed between the finishing date of the procurement process (date when the handover of goods/services took place) and the starting date of the procurement process (the date when the procurement notice was published). The duration of procurements across the procurement categories ranges from about 25-50 days in 2015, as shown in Figure 9. The comparison group of Phase 2 PSUs had, on average, statistically significantly longer procurements in consulting services, construction works and procurement of goods. For other services, the treatment group had on average, longer durations but this result is not statistically significant.

However, recent information acquired during the team's visit to Indonesia in May of 2017 alerted us to the fact that the completion of the tender should be measured at the announcement of the

winner given that the rest of the time until the procurement is completed is out of the PSU's hands and hence will not be a good variable to measure procurement efficiency. Hence for endline and for the impact evaluation analysis the duration of the tender will be measures using as the date the winner is announced as the finishing date.

Finally, it must be highlighted that the duration of procurement is dependent on the type of goods or services being procured and hence it is not surprising to find variations by category.



Notes: This figure includes 6,134 observations. The duration of procurements is capped at 30 years, as procurements taking longer than that seemed improbable. This removed 24 outliers. Both variables used to calculate the duration of procurement are from the SPSE data set.

As shown in Table 47, the duration of procurements was variable within agency type in 2015 for all PSUs, with a range of 27 up to 50 days across agencies.

Table 47. Duration of Procurement by Agency Type (Days)

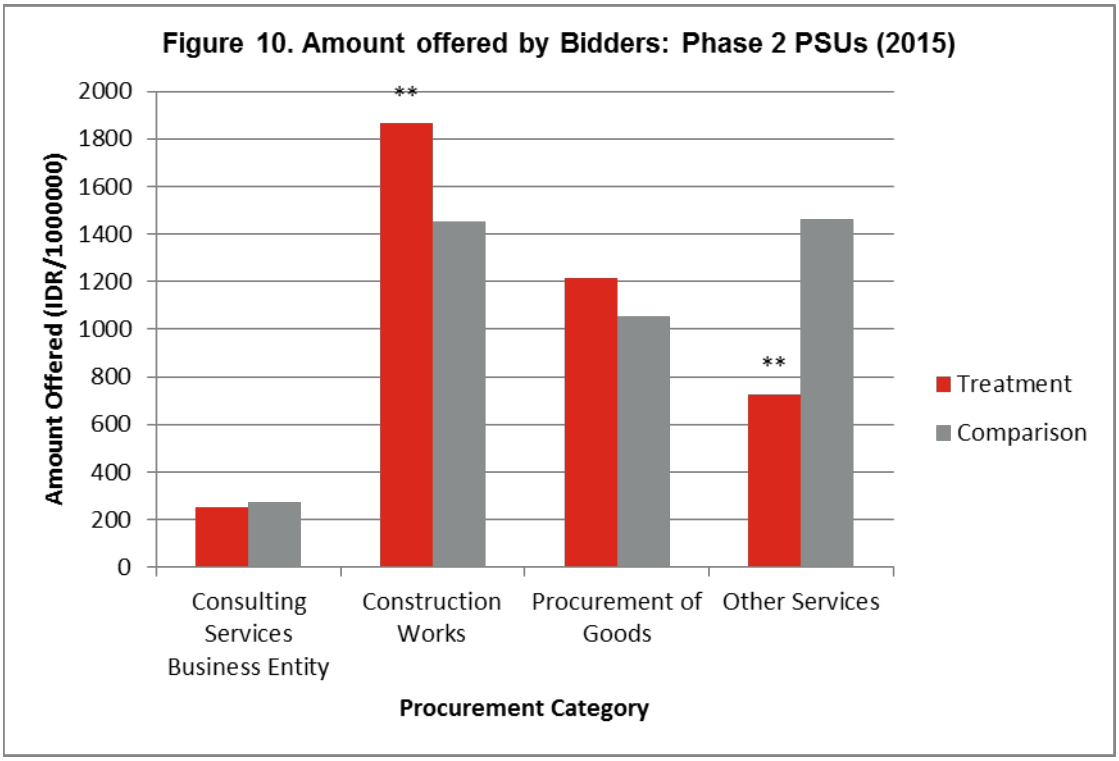
	2015
BHMN	40
BUMN	50
Department	31
Attorney General / TNI / Polri	30
The State Ministry	36
Health	27
Other	33
Non Departmental Government Institutions	36
Local Government	34
District Government	35

	2015
City Government	36
Provincial Government	37
Central Government	30
Secretary General of the Commission	35
The Secretary General of State Agency	30

Notes: This table includes 155,224 observations. Both variables used to calculate the duration of procurement are from the SPSE data set.

Amount Offered by Bidders

As shown in Figure 10, the amount offered by bidders differs substantially by procurement category. This is to be expected as, similar to the duration of the procurement, the cost of a procurement is largely dependant on the goods and/or services being procured.. However, we can observe that the amount offered for business consulting services is much lower than the other procurement categories, at around IDR 300,000,000 for both groups, and construction works seems to have the highest amounts offered for both groups. Interestingly, there is a large and statistically significant difference in the amount offered for "other services" between the treatment and comparison groups. This result, however, is difficult to interpret as "other services" is a very general category and this could simply reflect the difference in what types of services are included in this category for the different PSUs.



*Notes: This figure includes 5,784 observations. These values are equal to the original values divided by 1,000,000. After reviewing the distribution, the amount offered was capped at 500,000*10^6, which eliminated one outlier. The amount offered by bidders is from the SPSE data set.*

Across all PSUs in the data set, the amount offered by bidders is generally highest in attorney general agencies in 2015, as Table 48 shows.. The lowest is local government agencies, though this is likely not surprising as projects at the local government level would in general be smaller and worth less than those of agencies at the national level or with larger scopes.

Table 48. Amount Offered by Bidders by Agency Type (in IDR)

Agency Type	2015
BHMN	3,001
BUMN	3,361
Department	2,203
Attorney General / TNI / Polri	8,071
The State Ministry	5,228
Health	1,945
Other	2,562
Non Departmental Government Institutions	2,591
Local Government	1,052
District Government	1,344
City Government	1,173
Provincial Government	1,971
Central Government	3,248
Secretary General of the Commission	3,922
The Secretary General of State Agency	5,102

Notes: This table includes 134,544 observations. These values are equal to the original values divided by 1,000,000. The amount offered by bidders is from the SPSE data set.

6.7.3 Skills

These baseline findings focus on the following evaluation question:

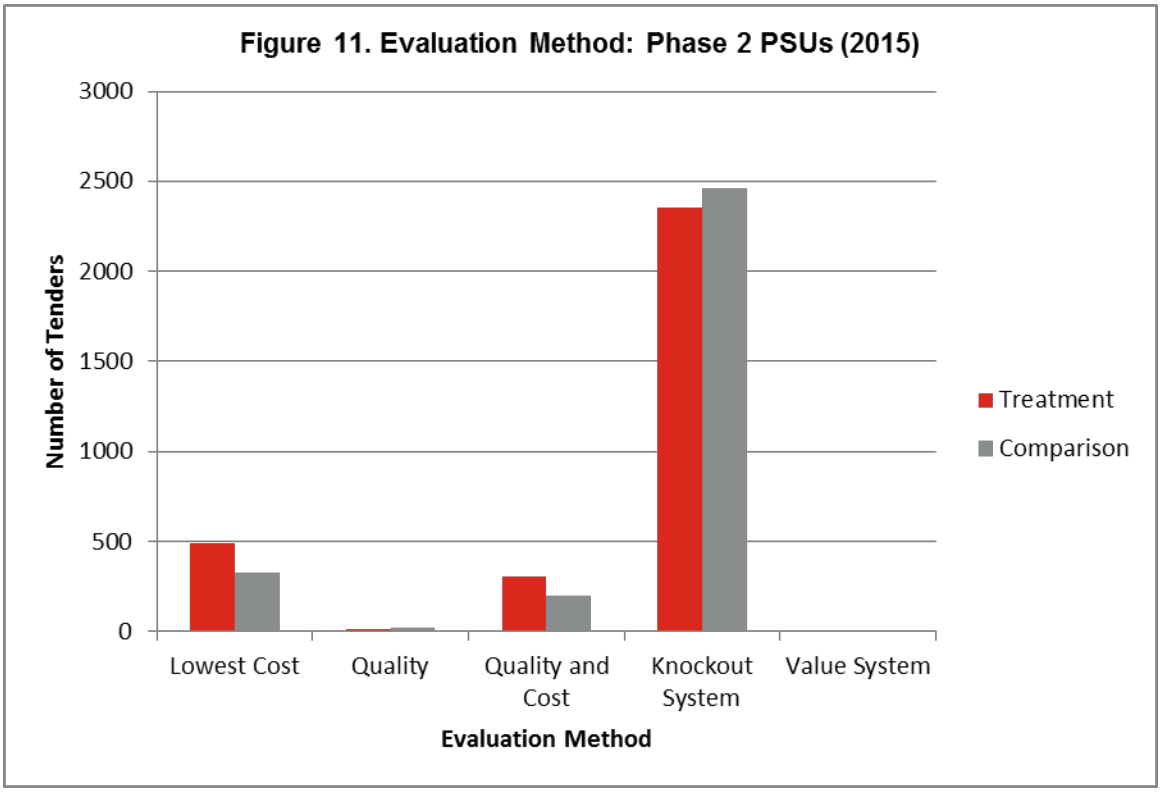
- *Has the procurement knowledge and skill of trainees improved?*
- *Are there detectable improvements in budget execution and efficiency of procurement execution in the PSUs and associated SKPDs?*

The main variables that will help us answer these questions are related to the type of evaluation methods used to evaluate bid proposals, the number of days taken to evaluate bid proposals, the number of days taken to validate tenderer's qualifications, and the number of days the procurement committee took to choose the bid winner. All these variables will be presented across years and by procurement category and type of government agency.

Evaluation Methods

Figure 11 shows that the knockout method is clearly the most common evaluation method used in 2015, for both the treatment and comparison Phase 2 PSUs. The knockout method refers to a system where the tender committee applies some predefined "knockout" to incoming bids For instance, if X is a knockout criterion and Bid 1 is (x, y, z) while Bid 2 is (y, z), Bid 2 would be considered irrespective of whether it is the lower bid. In other words, if one of the tenderers

does not comply with one (or more) of the criteria pre-defined by the tender committee, the tenderer will not be considered since it has been "knocked out." The next most common method is the lowest cost system.



Notes: This figure uses 6,155 observations.. The evaluation method is from the SPSE data set.

Table 49 shows the evaluation method across all PSUs in 2015 by agency type. It reflects the same pattern as Figure 11, with the vast majority of tenders being evaluated by the knockout system in all agency types. In addition, this table shows that the Age Economical System is only used in State Ministry agencies and not at all in any other agency type.

Table 49. Evaluation Method by Agency Type

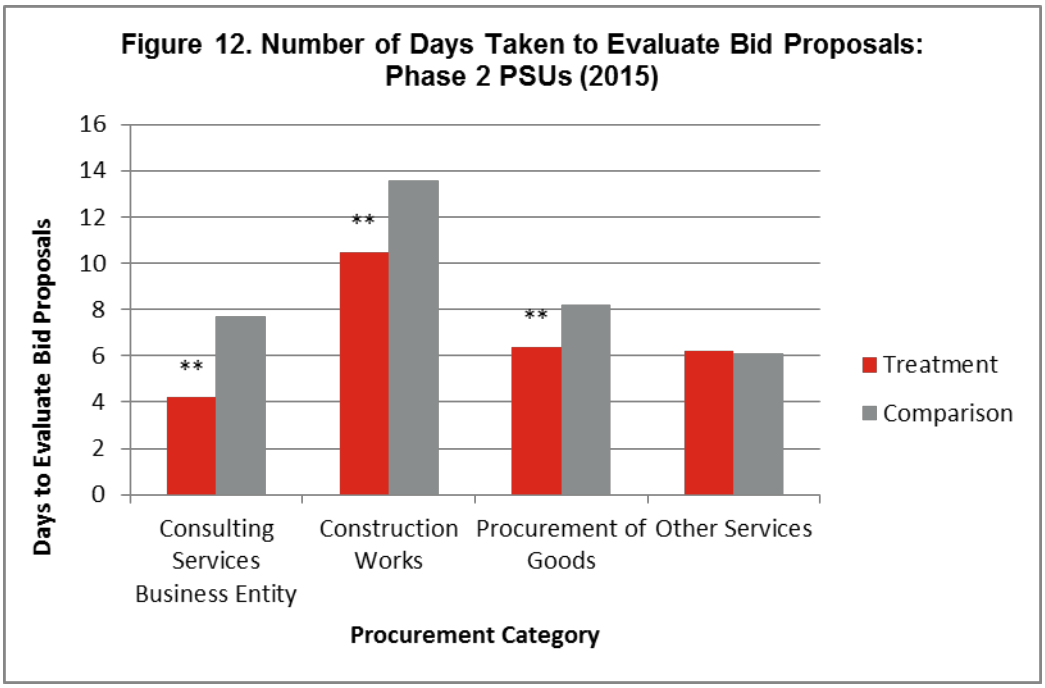
Agency Type	Lowest Cost.	Quality	Quality and Cost	Knockout System	Value System	Age Economical System
BHMN	710	9	393	5,091	17	0
BUMD	11	0	17	159	2	0
BUMN	3	4	46	1,796	184	0
Department	1,186	42	1,060	10,000	52	0
Attorney General / TNI / Polri	46	2	24	1,669	4	0
Coordinating Ministry	9	51	28	60	1	0
The State Ministry	1,172	50	2,516	10,216	400	28
Health	20	3	4	479	5	0
Finance	0	0	3	107	0	0
Other	181	8	99	1,539	17	0
Non Departmental	391	112	623	4,010	62	0

Agency Type	Lowest Cost.	Quality	Quality and Cost	Knockout System	Value System	Age Economical System
Government Institutions						
Tourism	1	0	0	11	0	0
Local Government	2,674	81	687	20,115	2	0
District Government	12,944	509	3,834	102,331	54	0
City Government	3,672	169	1,515	20,850	10	0
Provincial Government	4,066	111	3,247	25,657	17	0
Central Government	8	0	17	304	0	0
Broadcasting	3	0	0	72	0	0
Industry	0	0	0	3	0	0
Secretary General of the Commission	6	0	8	86	4	0
The Secretary General of State Agency	2	0	9	242	0	0
Number of Observations	27,105	1,151	14,130	204,797	831	28

Notes: This table uses 248,042 observations. The evaluation method comes from the SPSE data set.

Days to Evaluate Bid Proposals

The number of days taken to evaluate bid proposals for most categories ranges from about 4 days to a week. However, in both comparison and treatment Phase 2 PSUs, the mean for construction works is between 10 days and 2 weeks. In addition, in business consulting, construction works and the procurement of goods categories, comparison PSUs, on average, took statistically significantly longer to evaluate bid proposals than the treatment PSUs. This is illustrated in Figure 12.



Notes: This figure includes 6,134 observations. The number of days to evaluate bid proposals is from the SPSE data set.

Table 50 presents the number of days to evaluate bid proposals by agency type across all PSUs in 2015, which ranges from about 4.5 to almost 10 days. In general, lower level government agencies seem to take longer to evaluate bid proposals than other agencies.

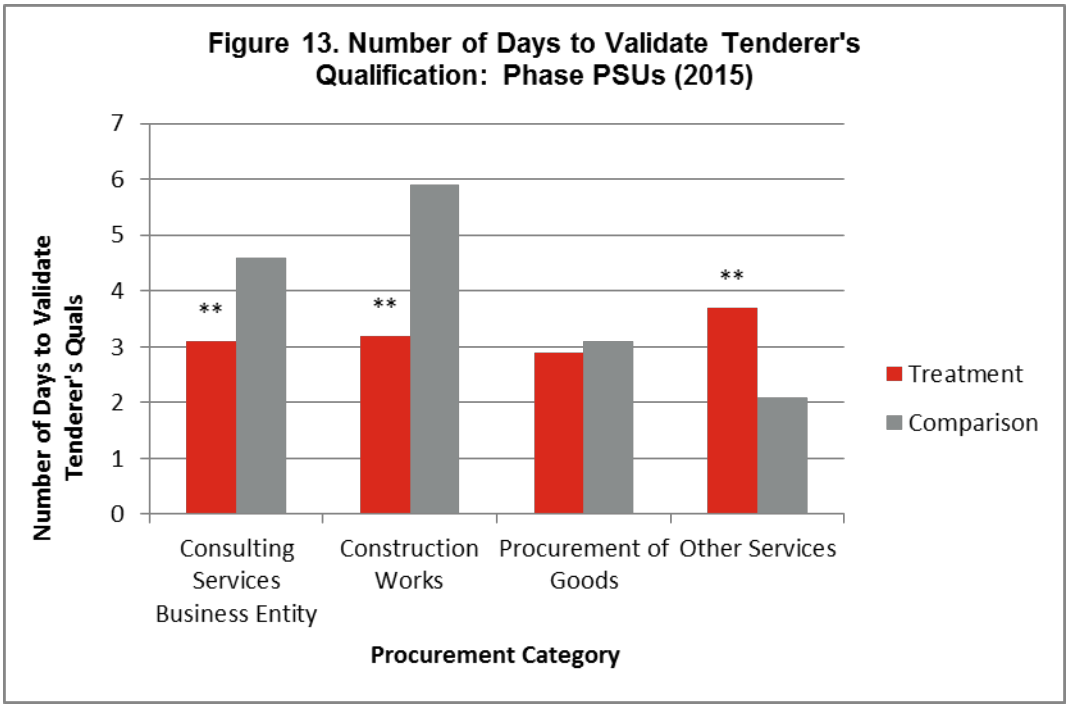
Table 50. Number of Days to Evaluate Bid Proposals by Agency Type

Agency Type	2015
BHMN	7.4
BUMN	7.3
Department	5.0
Attorney General / TNI / Polri	4.5
The State Ministry	4.8
Health	6.3
Other	5.5
Non Departmental Government Institutions	5
Local Government	7.9
District Government	9
City Government	9
Provincial Government	9.2
Central Government	7
Secretary General of the Commission	6.5
The Secretary General of State Agency	6.7

Notes: This table includes 155,270 observations. The number of days to evaluate bid proposals is from the SPSE data set.

Days to Validate Tenderer's Qualification

The number of days to validate the tenderer's qualification by procurement category ranges from about 2-6 days as shown in Figure 13. The treatment Phase 2 PSUs are relatively consistent across the four procurement categories, taking an average of between 3 and 4 days to validate tenderer's qualifications. The comparison Phase 2 PSUs, however, exhibit more variation, especially in construction works where they take, on average, almost 6 days to validate qualifications.



Notes: This figure includes 6,134 observations. The number of days to validate the tenderer's qualification comes from the SPSE data set.

Table 51 illustrates how in 2015, the number of days to validate the tenderer's qualification ranged from 1.9 to almost 5 days across the agency types. The Secretary General of the Commission and the Secretary General of State Agency are among the top of the distribution, averaging over 4 days each. Similarly, lower level agencies such as the City Governments and District Governments take 3.7 and 3.6 days to validate tenders

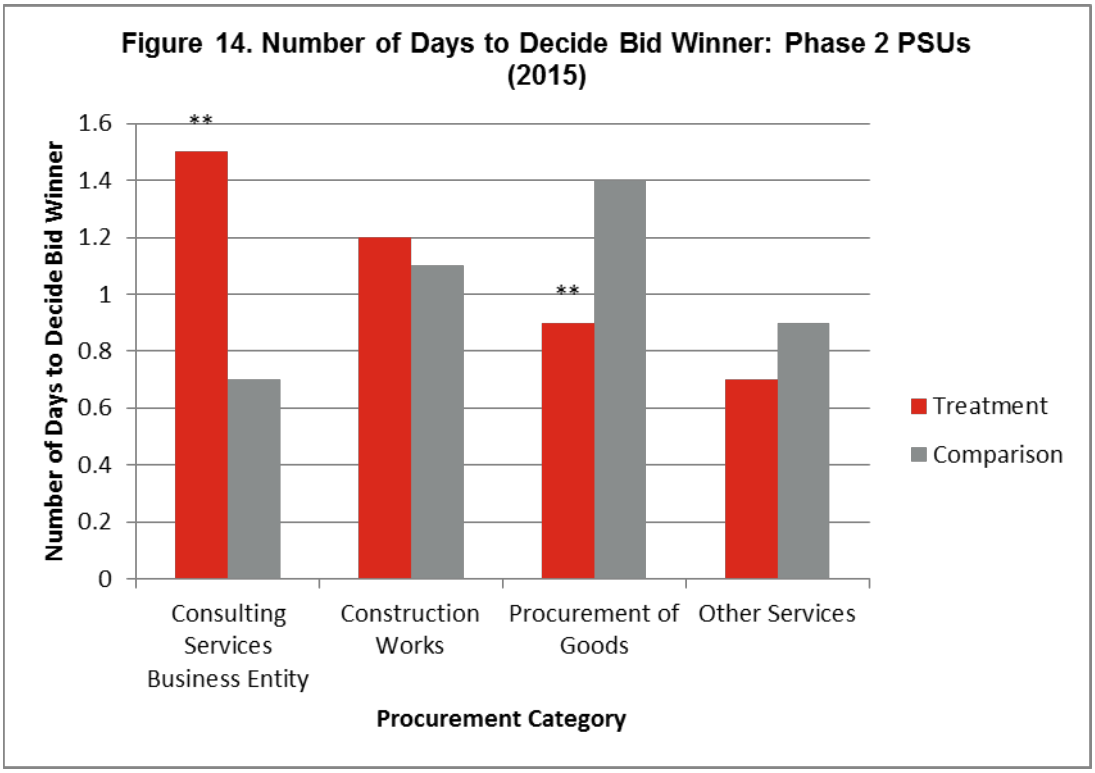
Table 51. Number of Days to Validate Tenderer's Qualification by Agency Type

	2015
BHMN	3.2
BUMN	4.8
Department	2.7
Attorney General / TNI / Polri	1.9
The State Ministry	2.3
Health	3.5
Other	3.1
Non Departmental Government Institutions	2.8
Local Government	2.9
District Government	3.6
City Government	3.7
Provincial Government	4
Central Government	3.8
Secretary General of the Commission	4.2
The Secretary General of State Agency	4.4

Notes: This table includes 155,270 observations. The number of days to validate the tenderer's qualification comes from the SPSE data set.

Number of Days to Decide a Bid Winner

The number of days to decide bid winner, as shown in Figure 14, exhibits a lot of variation across the procurement categories and the treatment and comparison groups. The treatment Phase 2 PSUs take statistically significantly longer to decide bid winners in business consulting services, but comparison PSUs, on average, take statistically significantly longer to decide winners for procurement of goods.



Notes: This figure includes 6,134 observations. The number of days to decide the bid winner comes from the SPSE data set.

Table 52 shows the number of days to decide the bid winner across agency types. For all PSUs in 2015 this is generally around 1 day in each agency. The health agencies have, on average, a higher number of days in each year, with a mean of more than 2 days each year.

Table 52. Number of Days to Decide Bid Winner by Agency Type

Agency Type	2015
BHMN	0.9
BUMN	2.3
Department	1.3
Attorney General / TNI / Polri	0.7
The State Ministry	0.9
Health	2
Other	1.2
Non Departmental Government Institutions	0.8

Agency Type	2015
Local Government	1.2
District Government	1.1
City Government	1
Provincial Government	1.3
Central Government	1.2
Secretary General of the Commission	0.6
the Secretary General of State Agency	0.7

Notes: This table includes 155,270 observations. The number of days to decide the bid winner comes from the SPSE data set.

6.7.4 Overall Evaluation Questions

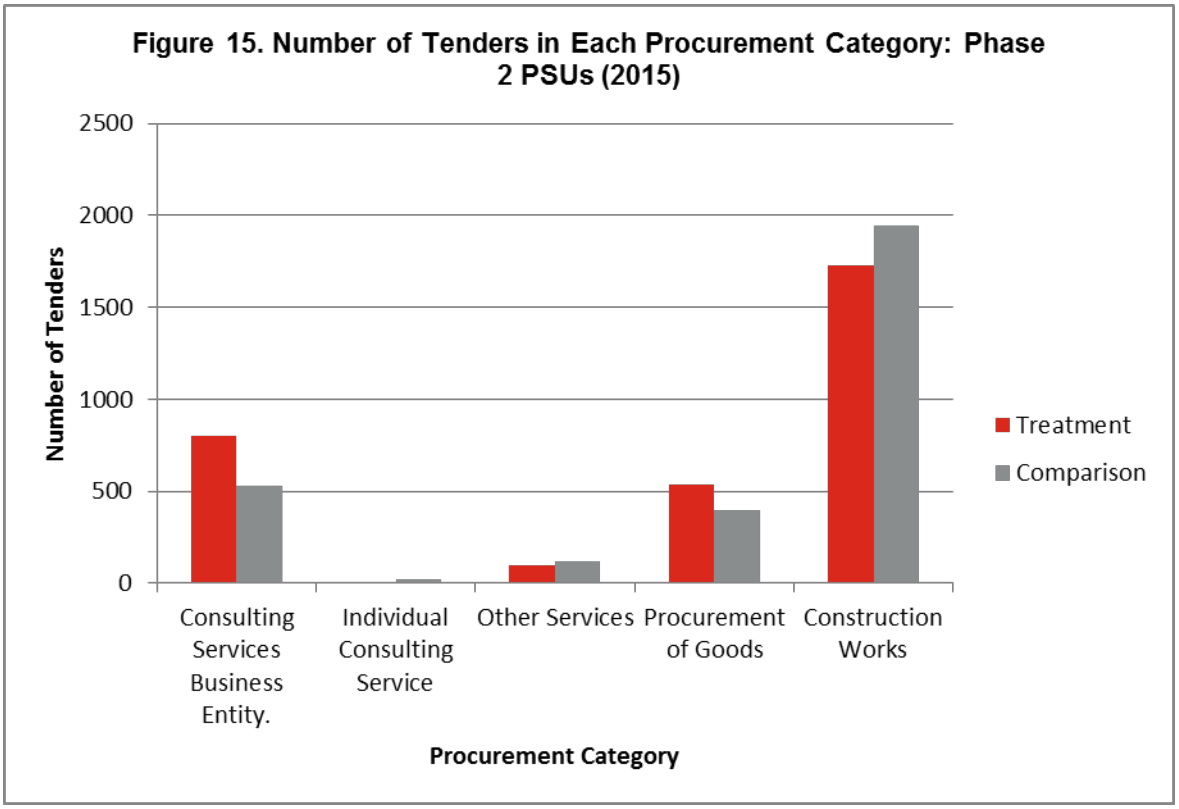
Finally, this data set will probably help us answer several of the overall evaluation questions once the endline data have been collected and analyzed and we have a PSU ID indicator variable. For example, the indicators mentioned above could be used as inputs to see if high-level outcomes from the project logic model are achieved by the end of the compact, answering the question:

- *Is there evidence that the interventions have resulted in the outcomes outlined in the project logic?*

In particular the data would shed some light on the following high-level outcomes: (1) Improved policies and procedures to support efficient and effective procurement, (2) Improved planning and budgeting leading to more strategic procurement and budget execution, and (3) Improved procurement processes ensuring value for money and better performing contracts. In addition, as seen above, the data will help us establish if time and/or cost savings have been achieved across treatment and control PSUs.

Number of Tenders

Finally, this data set provides the actual number of tenders registered in the system and hence can help us establish if there has indeed been an increase in e-procurement transactions. Figure 15 presents the number of tenders in each procurement category by year, while Table 53 shows the number of tenders by procurement category and government agency type. As previously mentioned, the number of individual consulting procurements was so few in the Phase 2 PSU sample that it was not possible to split them between treatment and comparison and test their means for the variables in the other figures. However, for a complete picture, this procurement category is included in Figure 15.



Notes: This chart includes 3,666 observations. The variables used are from the SPSE data set.

Across all years, the most common procurement category is construction works, averaging between 50,000 and more than 80,000 tenders per year. The next most common category is procurement of goods, but these consist of only about 25,000 to almost 35,000 tenders per year.

Table 53. Number of Tenders by Procurement Category and Agency Type (2015)

Agency Type	Consulting Services Business Entity.	Individual Consulting Service	Other Services	Procurement of Goods	Construction Works
BHMN	2,006	8	749	4,222	5,244
BUMD	36	0	10	59	172
BUMN	63	2	164	318	4,498
Department	5,371	36	4,440	11,466	8,432
Attorney General / TNI / Polri	174	4	706	1,794	887
Coordinating Ministry	61	52	67	52	26
The State Ministry	8,685	46	3,762	10,058	9,934
Health	138	3	152	1,141	207
Finance	3	0	37	69	7
Construction	0	0	0	0	1
Other	598	7	462	1,337	1,810
Non Departmental Government Institutions	1,943	162	2,308	5,076	2,170
Tourism	1	0	1	10	16

Agency Type	Consulting Services Business Entity.	Individual Consulting Service	Other Services	Procurement of Goods	Construction Works
Local Government	6,106	79	1,288	9,926	27,860
District Government	30,236	459	4,107	41,311	152,626
City Government	9,814	164	2,365	11,457	33,942
Provincial Government	17,218	111	5,126	21,615	33,403
Central Government	119	0	74	368	337
Broadcasting	6	0	30	115	19
Industry	10	0	0	13	8
Secretary General of the Commission	27	0	97	168	9
The Secretary General of State Agency	41	0	164	204	96
Number of Observations	82,656	1,133	26,109	120,779	281,704

Notes: Sample size 514,853 observations. The variables used are exclusively from the SPSE data set.

Table 53 reflects the same trend by agency type across all PSUs in 2015, with the bulk of tenders occurring in the construction works category by the local, city, district, and provincial government agencies. In general, the majority of tenders are occurring in these agency types across the other procurement categories as well.

7. Administrative

7.1 Summary of IRB Requirements and Clearances

Abt is committed to conducting research in conformity with basic ethical principles and federal and other regulatory requirements that govern research involving human subjects. Abt holds a current Federal-Wide Assurance of Compliance from the U.S. Department of Health and Human Services' Office for Human Research Protections. Before issuing approval, the Abt Institutional Review Board ensures that any research protocol includes adequate provisions to protect the privacy of subjects and the confidentiality of their information. The MCC Indonesia PM Project Request for Proposals and contract also required that the evaluation undergo appropriate review by an IRB.

Prior to data collection, our project team submitted the PM Project study protocol and consent documents to the Abt IRB. The Abt IRB approved the study protocol through an expedited review. In addition, the protocol was submitted for in-country review by the IRB of our subcontracted Indonesian survey firm (SurveyMETER). SurveyMETER's IRB also approved the study protocol before data collection began.

While this project involves minimal risk for the human subjects participating in the study, we developed stringent data security procedures and adhered to them throughout the data collection process. The names, emails, and phone numbers collected used for purposes of scheduling site visits for surveys and interviews were destroyed after the baseline round of data collection was completed. The only name retained was the administrative contact at each organization in order to contact them for scheduling the endline round of data collection. All survey and interview respondents were read a consent script and asked to provide verbal consent. No signed consent scrips were collected because those forms would create a link identifying the respondents.

Almost all of the primary data collection from individuals focused on routine administrative processing tasks and knowledge. There were a few questions regarding perceptions of bias, collusion or corruption in the procurement process. The more direct questions about such issues were contained in the PSU and SKPD surveys. For this reason, the surveys did not collect any directly identifying information about the respondents. The qualitative interviews also did not collect any identifying information about the respondent. Questions regarding collusion, bias or corruption in the interview instrument were phrased in broad terms (i.e., not about a particular PSU or organization) and respondents were instructed not to name any individuals or specific event as part of the information they provided. In addition, prior to sharing the survey data sets outside of the Abt study team (i.e., providing the data sets to MCC), the data sets are being further reviewed for any information that could lead to probabilistic identification of individuals. Such information is being removed or collapsed into broader categories before providing the data set to MCC (or others as directed by MCC). The qualitative data is also being reviewed for any information that could indicate a respondent's identity and such information will be removed prior to sharing the interview data with MCC. The full IRB approved Data Security Plan can be found in the Evaluation Design Report.

7.2 Data Access, Privacy and Documentation Plan

In keeping with MCC's commitment to transparency and public sharing of data, and to ensure replication of the evaluation, we will keep all the documentation required to replicate the evaluation. The documentation will include:

- Survey summary
- Descriptive statistics
- "Readme" file
- Questionnaires
- Codebook
- Analysis programs, where used
- Final documentation
- Anonymized and raw data sets in STATA

As per the recommendation of our IRB, we will make the quantitative data public as a restricted use data set through the MCC platform following completion of the study. Direct individual identifiers such as name will not be collected by the study for either qualitative interviews or quantitative surveys, in order to protect the identity of respondents. Indirect identifiers will additionally be removed from the data before they are provided to MCC.

7.3 Dissemination Plan

The Abt team plans to disseminate the results of the evaluation in the form of a stakeholder workshop in country in June 2019, following the completion of the evaluation, and in the form of conference presentations and peer-reviewed journal articles based on the data collection, analysis, and findings.

7.4 Evaluation Team Roles and Responsibilities

The key staff comprising the Abt study team includes both U.S. and Indonesia-based staff. Our team has in-depth knowledge of PM leadership and principal actors, including MCC, MCA-I and LKPP. The core evaluation project staff is listed below.

Gissele Gajate-Garrido, Ph.D., Portfolio Manager/Project Director, is a senior impact evaluation and policy analysis specialist with more than 12 years of experience in the design and implementation of impact evaluations in developing countries. She has worked in projects related to institutional performance, agriculture, food security, nutrition, health and education in several developing countries including Ghana, Kenya, Mali, Ecuador, Peru and Pakistan. Dr. Gajate-Garrido has served as Evaluation Team Lead and/or Principal Investigator for many impact evaluations and has successfully taken evaluations from design to conclusion, in several occasions. As a consequence, she has a great deal of experience dealing with project implementing agencies as well as government officials in developing countries. She has participated in and spearheaded all elements of the research process, including proposal writing and development, survey design, data collection, and monitoring, data analysis, final reporting, and dissemination of findings at conferences nationally and internationally. Moreover, she has

led multiple teams carrying out impact evaluations with various designs. As such, she has extensive knowledge of and experience with experimental and quasi-experimental impact evaluation methods, such as Instrumental Variables (IV), Difference-in-Differences (DD), Propensity Score Matching (PSM) and Propensity Score Weighting estimation techniques, all of which have been exemplified in her publication record. Moreover she has expertise in both population based survey design and in the design and implementation of Randomized Control Trials (RCTs). Dr. Gajate- Garrido provides overall management and administrative direction to the project as well as impact evaluation expertise.

Tulika Narayan, **Ph.D.,** is the Technical Advisor for this evaluation. The head of the Monitoring, Evaluation and Analytics Practice in Abt's International Economic Growth Division, Dr. Narayan is an evaluation expert with 15 years' experience evaluation and applied econometrics. She is intimately familiar with quantitative and qualitative evaluation methods including economic impact analysis, cost-effectiveness analysis, and cost-benefit analysis. She is the Research Director for the multi-donor AgResults initiative, overseeing the research agenda and quantitative assessments for this multi-country program. As team leader of the MCC Farmer Income Support Project evaluation in Mozambique, she has led a multidisciplinary team to design and implement the evaluation. Dr. Narayan will provide detailed input on technical products and approaches for the evaluation.

Theodore M. Hammett, Ph.D., is this evaluation's Project Quality Advisor. A Vice President and Principal Associate at Abt Associates, Dr. Hammett has extensive domestic and international experience in evaluation of interventions in public health and other domains. Many of these studies employed qualitative, quantitative, and mixed-methods designs. He has led projects and provided technical assistance in all areas of monitoring and evaluation, including process, outcome, and impact evaluation, and dissemination and utilization of research findings. He has also designed interventions and provided capacity development for host governments, civil society organizations, and other stakeholders. Dr. Hammett has experience working on projects in Asia, where he worked on the ground for over eight years and served as Chief of Party in Vietnam. In addition to his project work, Dr. Hammett serves as chair of Abt's Quality Assurance Council and edits the Abt Thought Leadership Paper Series. Dr. Hammett will provide quality assurance on all technical products and approaches for the evaluation.

Michael Costa, MPH, is the Senior Analyst leading the qualitative evaluation and serves as the overall technical lead on the evaluation. He is a Behavior/Reform Specialist, with 20 years of experience designing, managing and executing research, evaluation and implementation projects for a wide spectrum of clients. Mr. Costa is currently project director of a mixed-methods study to assess adaptation and organizational behavior change at Ryan White HIV/AIDS service providers. He is also currently working with the National Association of Community Health Centers, Community HealthCorps on an organizational change management initiative for their national project. As Abt Project Director/Evaluation Director for the Substance Abuse and Mental Health Services Administration from 2001 through 2011, Mr. Costa led the evaluation of, and technical assistance to, 36 minority-focused HIV/AIDS programs. His work included evaluating organizational change regarding culturally competent behavioral health services in service provider organizations. Dr. Costa is the overall technical lead for both the qualitative and quantitative evaluation components.

Hiren Nisar, Ph.D., is a Senior Analyst on this project, leading the quantitative evaluation of the PM Project. He has over nine years of experience managing various tasks on evaluation research project and recently leading projects and business proposals. He has led several quantitative research designs and analysis that meet rigorous evaluation standards. Additionally, Dr. Nisar has conducted a variety of quantitative analyses as needed on projects; these analyses include, but are not limited to: descriptive survey analysis, analyzing trends, summarizing high level information, and doing a variety of advanced statistical analyses. He has also performed various tasks in random assignment studies such as randomization of participants to experimental groups, conducting baseline equivalence and analysis of the randomized data. Dr. Nisar will lead the implementation and analysis of the quantitative evaluation.

Kate Hausdorff, M.S., is an Analyst on this project, assisting with the quantitative evaluation of the PM Project. Ms. Hausdorff is an economist with extensive training in quantitative evaluation methods and data analysis. At Abt, she is currently the Evaluation Analyst on the AgResults pilot in Nigeria, for which she supports quantitative data analysis and evaluation design. In 2015, she served as a Research Assistant in Zambia, where she cleaned and collected survey data, conducted focus group discussions, and created auditing surveys. Ms. Hausdorff will support Dr. Nisar with the quantitative evaluation implementation and analysis.

Our Procurement Reform Expert, **Michael Buehler, Ph.D.**, is a Lecturer in Comparative Politics in the Department of Politics and International Studies, School of Oriental and African Studies, University of London and an experienced researcher with extensive experience in Indonesia. He recently authored a World Bank report analyzing public procurement in Indonesia in a political economy context, and has presented these findings in several international workshops. With a specialty in Southeast Asian politics, his teaching and research interests revolve around state-society relations under conditions of democratization and decentralization. Previously he taught at Columbia University and Northern Illinois University. Dr. Buehler will provide support to the collection and analysis of qualitative data on the PM Project.

Kharisma Nugroho, Ph.D., is the in-country Program Manager. The former Director of Monitoring and Evaluation for MCA-Indonesia and former Interim Project Director for the PM Project, Dr. Nugroho is uniquely qualified to lead technical aspects of this research. While in his role at MCA-Indonesia, Dr. Nugroho designed and managed the M&E of $600 million programs on nutrition and green prosperity, in addition to procurement modernization. He served as program officer/M&E specialist for an AUSAID-Asia Foundation program, Revitalizing Indonesia's Knowledge Sector for Development Policy, providing technical assistance in developing an M&E system and tools. Dr. Nugroho is also active in networking with local government and civil society organizations in Java and Eastern Indonesia in the area of social transformation, focusing on the role of agency and structure in social transformation. He has extensive experience in evaluation, particularly in randomized impact evaluations, as well as in developing and overseeing monitoring. Dr. Nugroho will oversee the administrative aspects of the implementation of the PM Project evaluation in Indonesia.

Andysheh A. Dadsetan, in-country Senior Analyst, is a Program Management and Monitoring & Evaluation professional with over six years' experience conducting program design and coordination, as well as policy research, for think tanks, UN agencies, academic institutions, and

private consulting firms. He has an MA in international development, and spent three years conducting federal contracting and defense procurement analysis using the Federal Procurement Data System on behalf of the U.S. Department of Defense, publishing three subsequent reports and policy briefs on our findings regarding spending trends, competitiveness, and data integrity. He has overseen monitoring and & evaluation projects at the national level, including designing and implementing a Disaster Risk Management program and database with the Office of National Security in Sierra Leone, and managing monitoring & evaluation of rural economic development programs with the Ministry of Rural Development in India. His responsibilities included survey design in ODK, trainings of survey teams, and conducting data quality checks and analysis in STATA, as well as assessing trainings and workshops for district program officers in the use of an innovative new data system. Mr. Dadsetan will oversee technical aspects of the implementation of the evaluation in the field.

Ririt Arya, Senior Analyst, will provide in-field research assistance to the evaluation team. Ms. Arya has experience with the MCA-Indonesia M&E Unit. In her capacity as an M&E Specialist, Ms. Arya was responsible for tracking project activities implementation; data collection, review and analysis; and delivering progress reports and recommendations to the M&E Director and other MCA-Indonesia units and stakeholders. In addition to that, she was responsible for internal administration, finance, and contract management issues. Since resigning from MCA-Indonesia in May 2014, Ms. Arya has worked on independent evaluations for other development projects, including the Fred Hollows Foundation Australia and the International Labor Organization Bureau for Employers' Activities. Ms. Arya will provide support to Dr. Nugroho in the administration and implementation of the evaluation in the field.

During final negotiations of the referenced contract, MCC/W addressed several clarification questions to Abt Associates around important issues of disclosing any work performed related to the project being evaluated, given the inclusion in the Abt team of experts such as Kharisma Nugroho and Ririt Arya who have prior work experience with MCA-Indonesia. Accordingly, a Conflict of Interest and Independence Mitigation Plan was filed during final proposal negotiations and will be regularly reviewed/updated as appropriate to insure the integrity and independence of the evaluation being performed for MCC.

7.5 Independence Risk Mitigation Approach

During final negotiations of the referenced contract, MCC/W addressed several clarification questions to Abt Associates around important issues of disclosing any work performed related to the project being evaluated, given the inclusion in the Abt team of experts such as Kharisma Nugroho and Ririt Arya who have prior work experience with MCA-Indonesia. Accordingly, a Conflict of Interest and Independence Mitigation Plan was filed during final proposal negotiations and will be regularly reviewed/updated as appropriate to insure the integrity and independence of the evaluation being performed for MCC.

Abt strongly agrees that the independence of the evaluation is paramount and have included Dr. Nugroho in our proposed team as someone who is knowledgeable about MCA-I and the PM Project but had no role in the project's design and will not threaten the evaluation's independence. Dr. Nugroho's primary role at MCA-I was as Director of Monitoring and Evaluation, a position in which he did not have responsibilities relating to the PM Project or its

design. Dr. Nugroho served as interim director of the PM Project for three months in 2014 while MCA-I was recruiting for a new permanent project director to replace one who had left. During those three months, Dr. Nugroho was still serving in his primary role as Director of Monitoring and Evaluation and devoted only 20% of his time to the PM Project. His role in the PM Project was largely administrative, including tasks such as approving invoices and liaising with the government, MCC, and the project team, so that the project could continue to run while a search was ongoing for a replacement director.

Dr. Nugroho did not work on the design of the PM Project at any time, nor were any strategic decisions related to the design made during his time as interim director. His position on the independent evaluation team will not compromise the team's independence or impartiality.

With regard to Ms. Arya, she joined MCA-Indonesia M&E Unit in May 2014 as one of the Unit's M&E Specialists where her core tasks included providing technical and administrative support to the M&E Unit Director, including support to the monitoring and evaluation of the MCA-Indonesia PM Project. In her capacity as an M&E Specialist, Ms. Arya was responsible for tracking project activities implementation; data collection, review and analysis; and delivering progress reports and recommendations to the M&E Director and other MCA-Indonesia units and stakeholders. In addition to that, she was responsible for internal administration, finance and contract management issues. The design of the PM Project was fully established and underway at the time Ms. Arya joined and had not undergone any revisions during her employment with MCA-Indonesia. Since resigning from MCA-Indonesia in May 2014, Ms. Arya has worked on independent evaluations for other development projects, including the Fred Hollows Foundation Australia and the International Labor Organization's Bureau for Employers' Activities (ACT/EMP), but none of these activities relate to MCA-Indonesia programs at any level.

Ms. Arya has never been tasked nor had any involvement in the formulation and/or development of the design of the PM Project before, during, or after her time with MCA-Indonesia. Her position on the team will not compromise the team's independence or impartiality in any way.

We will take all measures to mitigate risks to the independence of the evaluation to ensure that the evaluation process, as stated in the OECD's Development Assistance Committee (DAC) Principles for the Evaluation of Development Assistance, is "impartial and independent in its function from the process concerned with the policy making, the delivery and the management of development assistance." While we do not believe Dr. Nugroho or Ms. Arya's role on the evaluation team will pose a threat to independence due to the limited role they played in the PM Project while employed by MCA-I and their role on the evaluation, we will take the following measures to further guard against any actual or perceived threats:

- *Independence of design.* Our evaluation design will be led by Senior Technical Expert Michael Costa in collaboration with Jean Lee for Quantitative Issues and Tulika Narayan/Ted Hammett, our Project Quality Advisers. They will also receive inputs from Procurement Reform Expert Dr. Michael Buehler. Dr. Nugroho's involvement in the design will be as an advisor; he will not have influence over crucial design elements such as the refining of evaluation questions and outcome measures or the selection of stakeholders to be interviewed. Rather, Dr. Nugroho's role will more heavily emphasize

data collection and analysis. Ms. Arya's role in the project will be limited to supporting the team's efforts in research, analysis and administration. She will be closely supervised by the Abt Technical Team and will not be directly involved in any issues which would influence the evaluation design.

- *Independence of data collection.* To ensure that Dr. Nugroho's involvement in the evaluation will in no way influence the interview responses of key informants, Dr. Nugroho will not conduct interviews with any person with whom he has a current or former professional relationship. Other members of the team and/or survey firm personnel will conduct these interviews rather than Dr. Nugroho. Ms. Arya will play a purely administrative and research role in these efforts, always working closely with other members of the Technical Team to ensure independence of data collection.
- *Independence of analysis and reporting.* Dr. Nugroho will play an important role in data analysis, but will not lead the analysis of key evaluation questions or the overall assessment of program effectiveness. Senior Technical Adviser Michael Costa and Quantitative Lead Jean Lee will have primary responsibility for analysis and report writing and will work in close collaboration with not only Dr. Nugroho, but also other members of the Abt team and Dr. Buehler to formulate conclusions. Dr. Nugroho will not work on any analysis or report writing task that is not also reviewed by another team member. Ms. Arya's role will be limited here to research and administration support, always under the close supervision of senior technical staff.

Furthermore, as part of our approach to analysis and reporting, Abt has designated two project quality advisors, Dr. Tulika Narayan and Dr. Theodore Hammett, to provide oversight on all key evaluation outputs and to provide advice and input at critical points such as the drafting of the evaluation design. Dr. Narayan and Dr. Hammett will devote special scrutiny to any potential threats to evaluation independence in the evaluation's design and execution, in addition to ensuring overall quality. While we do not expect independence-related issues to arise, in the event that either project quality advisor sees cause for concern, they will immediately inform both the Program Manager and the home office Portfolio Manager/Project Director, Peter Levine, for action.

7.6 Budget

Table 54. Evaluation Budget Summary

Task	Total Estimated Cost	Deliverable	Percentage of Task Completed	Estimated Due Date
1 Assess Evaluation Plan	84,420	Written assessment of project logic, review of evidence, ERR, and beneficiary analysis	100%	25-Mar-2016
2 Develop Evaluation Design Report	168,841	Scope of Work (SOW), Trip Report for each country visit		
		Agenda, minutes of each local stakeholder workshop/meeting		
		Draft Evaluation Design Report	100%	17-May-2016
		Local stakeholder feedback with response	100%	27-May-2016
		MCC feedback with response	100%	27-May-2016

Task	Total Estimated Cost	Deliverable	Percentage of Task Completed	Estimated Due Date
		Final Evaluation Design Report (updated as needed)	80%	23-Jun-2016
3 Develop Baseline Evaluation Materials		Draft data collection firm terms of reference	100%	7-Jul-2016
		Draft English questionnaires, training manuals	100%	25-May-2016
		SOW, Trip Report for each country visit		
		Summary of pilot test	100%	25-June-2016
		Written review of back-translation	100%	25-June-2016
		Final English questionnaires, training manuals	100%	25-June-2016
		IRB approval/clearances with informed consent statement(s)	100%	25-June-2016
		Documentation of local stakeholder and MCC feedback and response	100%	25-June-2016
4 Supervise baseline data collection	253,261	SOW, Trip Report for each country visit		
		Written minutes of meetings with data collection firm(s)		
		Written summary of quality control checks	100%	15-Sep-2016
5 Develop Baseline Report	168,841	SOW, Trip Report of each country visit		
		Written minutes of meetings with local stakeholders		
		Draft Baseline Report	100%	13-Feb-2017
		Documentation of local stakeholder and MCC feedback and response	0%	30-Mar-2017
		Final raw and analysis files, anonymized following MCC guidelines; STATA do files	100%	15-Feb-2017
		Final Baseline Report	0%	21-April-2017
6 Disseminate Baseline Results	168,841	SOW, Trip Report of each country visit		19 – May 2017
		Agenda, minutes from local stakeholder workshop		26 – May 2017
		PowerPoint presentations	0%	16-Jun-2017
7 Monitor program implementation	84,420	Written risk assessments included in quarterly reports (for impact evaluations, include summary of any risks to internal validity)	0%	Quarterly
		Written status of implementation in treatment and control groups	0%	Quarterly

Task	Total Estimated Cost	Deliverable	Percentage of Task Completed	Estimated Due Date
8 Revise Interim/Final Evaluation Materials	84,420	Draft data collection firm terms of reference	0%	19-Jan-2018
		Update/revise English questionnaires, training manuals	0%	9-Feb-2018
		SOW, Trip Report for each country visit		
		Summary of pilot test, written review of back-translation	0%	2-March-2018
		Final English questionnaires, training manuals	0%	23-March-2018
		IRB approval/clearances with informed consent statement(s)	0%	23-March-2018
		Documentation of local stakeholder and MCC feedback and response	0%	
9 Supervise Interim/Final Data collection	253,261	SOW, Trip Report for each country visit		
		Written minutes of meetings with data collection firm(s)		31-May-2018
		Written summary of quality control checks	0%	30-June-2018
10 Develop Interim/Final Report	168,841	SOW, Trip Report of each country visit		
		Written minutes of meetings with local stakeholders		
		Draft Evaluation Report	0%	16-Nov-2018
		Local stakeholder feedback with response; Public Statement of Difference/Support	0%	10-Dec-2018
		MCC feedback with response	0%	17-Dec-2018
		Final raw and analysis files, anonymized following MCC guidelines; STATA do files	0%	10-Sep-2018
		Final Evaluation Report	0%	4-March-2019
11 Disseminate Final Results	168,841	SOW, Trip Report of each country visit		
		Agenda, minutes from local stakeholder workshop		
		PowerPoint presentations	0%	28-June-2019

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9. Annexes

9.1 Research Questions

1. Superordinate Goals/Shared Values:
    a. *Are there any issues related to the political economy (or other aspects) of the procurement system and its actors not addressed by the project that may have impacted the project's ability to achieve its intended results? (Q4):* This question relates to the overall goals of the program and whether there were political economy facilitators and barriers to the success of the project.
    b. *Did the program result in a change in culture or shared values? (New Q):* This question asks whether the necessary change in shared values and culture for organization transformation occurred. Further, it relates to the idea of shifting the mindset of procurement professionals to focus more on producing value for the government and public.
2. Structure
    a. *What types of organizational or operational changes are taking place at the PSU level? (Q9):* This question asks what organizational and operation changes are happening, broadly speaking, at the PSU level, and relates directly to whether changes are occurring along the dimensions outlined in the program logic as a result of the intervention, such as establishing performance frameworks.
    b. *Have adopted the Maturity Model as an approach to supporting their organizational development goals? (Q13):* This question asks whether the program was effective in getting treatment PSUs to adopt self-assessment and development tools, and relates directly to the inputs and outputs in the program logic.
3. Systems
    a. *What types of procedural changes are taking place in the conduct of procurements? (Q10):* This relates directly to the intermediate outcome of "greater skill/knowledge about proper procurement procedures among PSU staff and other actors in procurement eco-system."
    b. *What was the quality of policies and procedures developed by the project (e.g. PPP)? (Q25):* This relates broadly across the program inputs in the project logic, and is an important question, as it asks whether the policies and procedures developed by the project were of high quality and considered to be useful.
    c. *Are there changes in policies, procedures, or otherwise that could lead to quality improvements in ultimate procurement (contract) outcomes? How so? (Q18):* This evaluation question relates to multiple points in the project logic, including the high-level outcome of generating an improved procurement process ensuring value for money, including quality.
    d. *Are there changes in policies, procedures, or otherwise that could lead to savings (financial or total lifecycle) in government procurements? How so? (Q19):* This evaluation question relates to multiple points in the project logic, including the high-

level outcome of generating an improved procurement process ensuring value for money, including total lifecycle cost.

e. *Are PSUs using e-catalog for standard purchases? (Q15):* This evaluation question directly links to the inputs and outputs relating to the e-catalog and framework agreements in the project logic.

f. *Are PSUs using the lifecycle PMIS? (Q22):* This evaluation question directly links to the inputs and outputs relating to the PMIS in the project logic.

g. *What was the quality of PMIS? (Q21):* This evaluation question directly links to the inputs and outputs relating to the PMIS in the project logic.

h. *Has the PMIS contributed to changes in procurement planning or implementation? (Q24):* This evaluation question directly links to the inputs and outputs relating to the PMIS in the project logic, and explores how these inputs and outputs lead to the higher- level outcomes delineated in the project logic, such as more-effective procurement organization and improved planning and budgeting.

i. *Does the design of PMIS meet the needs of the PSUs and other procurement actors? (Q23):* This evaluation question also directly links to the inputs and outputs relating to the PMIS in the project logic, and explores how these inputs and outputs lead to the higher-level outcomes delineated in the project logic, such as more-effective procurement organization and improved planning and budgeting.

j. *Have PSUs developed their own framework contracts? (Q14):* This evaluation question directly links to the inputs and outputs relating to the e-catalog and framework agreements in the project logic.

k. *Have PPPs been conducted in accordance with the policies and procedures developed by the project? (Q26):* This evaluation question directly links to the inputs and outputs relating to PPPs in the project logic.

4. Skills

a. *Are the skills/knowledge emphasized in the training spreading within the PSU? How so? (Q8):* This evaluation question links directly to the intermediate outcome of "greater skill/knowledge about proper procurement procedures among PSU staff and other actors in procurement eco-system."

b. *What was the quality of training and mentoring? (Q6):* This evaluation question directly assesses the quality of program inputs, in particular training and mentoring, and their effectiveness in achieving desired outputs and outcomes.

c. *Has the procurement knowledge and skill of trainees improved? (Q7):* This evaluation question links directly to the intermediate outcome of "greater skill/knowledge about proper procurement procedures among PSU staff and other actors in procurement eco-system."

d. *Are there detectable improvements in budget execution and efficiency of procurement execution in the PSUs and associated SKPDs? (Q12):* This evaluation question asks directly about an outcome in the project logic, which is "improved planning and budgeting leading to more strategic procurement and budget execution."

5. Staffing
    a. *Are staff now permanent staff? (New Q):* This evaluation question relates to the program intermediate outcome of "full-time staff appointed."
    b. *Do staff seem committed to and engaged in pursuing a procurement career path? (New Q):* This evaluation question relates to the longer-term impact of the program, as the trained staff need to be committed to pursuing a procurement career path in order to have an impact on practices within treatment PSUs.
    c. *Are trained or "permanent" staff retained? (New Q):* This evaluation question relates to the longer-term impact of the program, as the trained staff need to be retained in order to have an impact on practices within treatment PSUs.
    d. *Do staff feel more supported administratively and legally? (New Q):* This question addresses an aspect of the procurement eco-system that the evaluation team feels is a precondition for effective practice of procurement.
    e. *Was there a gender inclusive strategy for recruiting procurement staff? (New Q):* Added at the behest of the MCA-I staff, this question relates to the nature of the implementation of the appointment of full-time staff in the project logic.
6. Overall Evaluation Questions
    a. *Were the Activities/Sub-Activities implemented as designed? (Q1):* This evaluation question asks overall whether the program was implemented with fidelity to design, and is an assessment of whether the program inputs were implemented as originally conceived. Embedded in this is an assessment of the quality of implementation.
    b. *What were the implementation challenges and successes? (Q2):* This evaluation question asks broadly whether there were implementation challenges and successes, and is applicable throughout the project logic.
    c. *Is there evidence that the interventions have resulted in the outcomes outlined in the project logic? (Q3):* This evaluation question asks broadly whether outcomes have followed the pattern predicted by the project logic.
    d. *Was the set of activities designed the right or most strategic intervention for the Indonesian procurement context or to improve Indonesian government procurement? (Q5):* This evaluation question asks, based on the results of the evaluation, whether the inputs chosen were the best possible for the sector.
    e. *Has framework contracting/e-catalog resulted in time and/or cost savings? (Q16):* This evaluation question asks whether framework contracting as implemented was able to generate cost savings, a high-level outcome of interest.
    f. *Is there evidence for cost savings in the program PSUs? (New Q):* This evaluation question asks whether cost savings were generated overall, relating to the high-level outcome of "[i]mproved procurement process ensuring value for money…"
    g. *How has budget absorption in the PSUs changed over time? (Q20):* This evaluation question asks whether there has been "[i]mproved planning and budgeting leading to more strategic procurement and budget execution."

h. *Has there been an increase in PPP transactions? (Q27):* This question relates to whether or not there have been more "PPP Pilot Projects advanced and promoted by SBDs."

i. *Did the program contribute to change perceptions of corruption or transparency? (New Q):* This question relates to the program's goal of reducing corruption and increasing transparency in public procurement.

9.2 Power Calculations

Sample unit(s): For the interrupted time series analysis of tender-related outcomes using the SPSE data, the relevant sampling unit is the yearly average tender for each PSU (which encapsulates all the SKPDs associated with it) subdivided by government agency types requesting them and by procurement category. For example, one unit could be the average tender for construction works requested by the provincial government from the Banjar District PSU during the year 2015. For the difference-in-differences analysis of survey data, the relevant sampling unit is the PSU and the individual surveyed. For the descriptive analysis of survey data and program monitoring data that will take place, the relevant sampling unit is the PSU or the PSU and the individual surveyed.

Formula: The standard formula for minimum detectable effects (MDEs) was used to calculate MDE for the following outcomes under varying sets of assumptions: number of bidders, ratio of cost to owner estimate, number of months to complete a tender, and for all Likert scale questions included in the survey. These calculations show that under reasonable assumptions, these sample sizes are powered to be able to detect small changes in the relevant outcomes under consideration. The formula used is:

$$MDE = \sqrt{\frac{\widehat{Var(Y)}}{n}}\sqrt{\frac{1}{p(1-p)}}\left(q_{1-\frac{\alpha}{2}} + q_{\lambda}\right)$$

where Y is the outcome of interest, n is the sample size, p is the fraction of the sample treated, α is the desired level of significance, λ is the one minus the desired power, and $q_{1-\frac{\alpha}{2}}$ and q_{λ} are quantiles of the normal distribution.[26]

Tables A1, A2, and A3 show very basic MDE calculations using this formula applied to the interrupted time series analysis of number of bidders for the average tender in each PSU by government agency type and procurement category, ratio of cost to owner estimate for the average tender in each PSU by government agency type and procurement category, and number of months within which the tender is completed for the average tender in each PSU by government agency type and procurement category. The tables vary the variance of the

[26] Note that more precise formulas are available for MDEs calculations using ITS estimation, but require data that we do not have available to estimate the parameters going into the models. At a minimum, ITS is similar to a difference-in-differences model and additional precision is gained by estimating the separate trends for treated and comparison units. Therefore, our power calculations by using this formula are conservative for the ITS framework.

outcome variable while holding constant the sample size, the proportion of the sample treated, and the desired power. For the sample size, we assume that we will have 100 observations (20 government agency types multiplied by 5 procurement categories) year over six years for 40 treated and 40 untreated PSUs (excluding LKPP and the three ministries from the treated group for Phase 2, because of the lack of appropriate comparators on the shortlist, and Kota Bandung because it was selected outside of the shortlisting process). This is a conservative assumption. We assume that 25% of the observations will be treated observations and that alpha is equal to 0.05 and lambda is equal to 0.2 (for a power level of 0.8). For a range of variances of the outcome variables, the minimum detectable effect is small enough to imply that any economically significant effect would be detectable in our sample. Similarly, Table A4 shows a very basic MDE calculation using this formula applied to the difference-in-differences analysis. For a wide range of variances of the outcome variables, and Likert scale survey questions, small differences in mean outcomes are detectable with our projected sample size.

Table A1: MDE Calculations for Number of Bidders

Var(Y)	N	p	Alpha	Lambda	MDE
1	48000	0.25	0.05	0.2	0.02962
1.25	48000	0.25	0.05	0.2	0.033116
1.5	48000	0.25	0.05	0.2	0.036277
1.75	48000	0.25	0.05	0.2	0.039184
2	48000	0.25	0.05	0.2	0.041889
2.25	48000	0.25	0.05	0.2	0.04443
2.5	48000	0.25	0.05	0.2	0.046833
2.75	48000	0.25	0.05	0.2	0.049119
3	48000	0.25	0.05	0.2	0.051303

Table A2: MDE Calculations for Ratio of Cost to Owner Estimate

Var(Y)	N	p	Alpha	Lambda	MDE
0.15	48000	0.25	0.05	0.2	0.011472
0.2	48000	0.25	0.05	0.2	0.013246
0.25	48000	0.25	0.05	0.2	0.01481
0.3	48000	0.25	0.05	0.2	0.016224
0.35	48000	0.25	0.05	0.2	0.017523
0.4	48000	0.25	0.05	0.2	0.018733
0.45	48000	0.25	0.05	0.2	0.01987
0.5	48000	0.25	0.05	0.2	0.020945

Table A3: MDE Calculations for Tender Completed within X Months

Var(Y)	N	p	Alpha	lambda	MDE
1	48000	0.25	0.05	0.2	0.02962
1.25	48000	0.25	0.05	0.2	0.033116
1.5	48000	0.25	0.05	0.2	0.036277
1.75	48000	0.25	0.05	0.2	0.039184
2	48000	0.25	0.05	0.2	0.041889
2.25	48000	0.25	0.05	0.2	0.04443
2.5	48000	0.25	0.05	0.2	0.046833

Var(Y)	N	p	Alpha	lambda	MDE
2.75	48000	0.25	0.05	0.2	0.049119
3	48000	0.25	0.05	0.2	0.051303

Table A4: MDE Calculations for Likert Scale Survey Questions

Var(Y)	N	p	Alpha	lambda	MDEcal
0.5	880	0.25	0.05	0.2	0.154685
0.75	880	0.25	0.05	0.2	0.18945
1	880	0.25	0.05	0.2	0.218758
1.25	880	0.25	0.05	0.2	0.244579
1.5	880	0.25	0.05	0.2	0.267923
1.75	880	0.25	0.05	0.2	0.28939
2	880	0.25	0.05	0.2	0.309371

9.3 Analysis Plan for the Quantitative Data

The Abt evaluator team will analyze the data in the comparative interrupted time series and difference-in-differences frameworks as described below.

The CITS analysis will be performed on administrative data from the LPSE in order to gauge impacts of the program on tender-related outcomes. In order to present the comparative analysis, we first begin with an explanation of the interrupted time series analysis of the data.

Within each treatment PSU and/or affiliated SKPD, the yearly average tender subdivided by government agency types requesting them and by procurement category will form the unit of analysis. The simplest ITS model specification that reflects this structure is given in Equation 1 below:

$$Y_{tijh} = \beta_0 + \beta_1 time_t + \beta_2 Post2_t + \beta_3 time_t Post2_t + \sum_{n=1}^{N} \beta_{n+3} X_{tijh}^{n} + \sum_{m=1}^{M} \beta_{N+3+m} W_{tj}^{m} + C_j + \epsilon_{tijh} \quad (1)$$

where:

Y_{tijh} = Outcome measure for the average tender in PSU *j* requested by government agency type *i* in year *t* and belonging to procurement category *h*. As mentioned above, this model will be estimated separately for all targeted outcomes of interest.

$time_t$ = The counter for year=*t*= 2015 denote the pre-intervention period, while year=*t*= 2016, 2017 and 2018 denotes the post-intervention periods.

$Post2_t$ = Indicator for the post-intervention observation that were treated in Phase 2 (i.e., equals one if *t*>2016 and zero otherwise).

$time_t Post2_t$ = Interaction term between the year counter and the post-intervention indicator for Phase 2

C_j = Indicator (i.e., fixed effect) for PSU *j (j=1,2,…,J)* time invariant characteristics (e.g. level of government the PSU belongs to: province, district, city).

X_{tijh}^{n} = The vector of *n*-th characteristics of average tender in PSU *j* requested by government agency type *i* in year *t* and belonging to procurement category *h.* Note that we allow these characteristics to be time variant, but we should be careful not to include those that could be endogenous (i.e., affected by the intervention).

W_{tj}^{m} = The vector of *m*-th characteristic of PSU *j* at time *t*. Note that we allow these characteristics to be time variant, but we should include only exogenous attributes.

ϵ_{tijh} = Residual associated with observations at time *t*, which is assumed to be distributed with a mean of zero and variance of σ_{ϵ}^{2}. This term captures the variation in the outcome measures of the average tender in PSU *j* requested by government agency type *i* and belonging to procurement category *h* across time.

In Equation 1, β_0 is the base level of the outcome at the beginning of the time series, β_1 captures the linear time trend in the outcome measure or base trend (which is essentially based on the change in the outcome measure during the pre-intervention segment), β_2 capture the treatment effect (or change in the level) in the post-intervention segment for Phase 2, respectively, and , β_3 capture the change in the trend in the post intervention segment for Phase 2, respectively. This model can further be modified to accommodate more-complex situations and data patterns, including non-linear time trends (e.g., with the addition of the square of the time variable).

An unaffected outcome, represented by Z_{tijh}, can be used to remove the confounding that may occur in the ITS model as a result of an unrelated shock at the time of the intervention. First, consider the estimation of the pooled impact estimate across all post-intervention time points and the following model specification for Z_{tijh}, which is parallel to the specification in Equation 1:

$$Z_{tijh} = \alpha_0 + \alpha_1 time_t + \alpha_2 Post2_t + \alpha_3 time_t Post2_t + \sum_{n=1}^{N} \alpha_{n+3} X_{tijh}^{n} + \sum_{m=1}^{M} \alpha_{N+3+m} W_{tj}^{m} + C_j + \epsilon_{tijh} \quad (1)$$

In Equation 2, all right-hand side variables are defined as in Equation 1, and the two error terms capture the random errors at the individual level and the time-specific residual, respectively. In this specification, α_1 represents the linear time trend in the untreated outcome measure, while α_2 captures the pooled deviation from this trend for the post-intervention time point, which is attributed to confounders and considered to represent the effect of the confounding factors. Note that this is based on the assumption that Z_{tijh} is not specifically targeted by the intervention; therefore, the deviation of this measure from its baseline trend is fully attributable to confounding factors. Further, assuming the effect of the confounders on the treated outcome is proportional to the effect on the untreated outcome where the ratio of the two effects is equal to the ratio of the time trends, the impact estimate for the treated outcome that is adjusted for the confounders is given by:

(2) $\beta_2^{adj} = \beta_2 - \frac{\beta_1}{\alpha_1}\alpha_2$

In Equation 3, β_2^{adj} is essentially the impact on the targeted outcome for Phase 2 that is free of confounding factors that affect both the affected and unaffected outcomes in the same direction.

The difference-in-differences framework for survey-related outcomes would be estimated as follows:

(3) $Y_{tj} = \beta_0 + \beta_1 Treatment_{it} + \beta_2 Post_t + \beta_3 Treatment_{it} Post_t + \sum_{m=1}^{M} \beta_{m+3} W_{tj}^m + C_j + \epsilon_{tij}$

where the right-hand side variables are specified as above with the difference that all outcomes are only at the PSU level and are not divided by government agency type nor procurement category. The additional terms are *Treatment*$_{it}$ which is an indicator equal to 1 if the observation was treated in Phase 2, and *Post* equals one if *t*>2016 and zero otherwise. In this specification, the treatment is given by β_3, the coefficient on $Treatment_{it} Post_t$, which removes any bias from time trends or time-specific shocks that are common to the treated and comparison units, as well as any bias due to baseline differences in levels of the outcomes across treated and comparison units that are due to factors that are time-invariant.

In addition, we will produce descriptive statistics to the extent we are able using program-generated data, leveraging the outputs produced by the implementing consultants to generate knowledge.

9.4 Stakeholder Comments and Evaluator Responses

Initial feedback from stakeholders (MCC, MCA-I, LKPP, contractors) involved has helped clarify the PM project logic. When Abt began its design, there were multiple versions of the project logic model in circulation among the stakeholders. At two different points in the design process, Abt received updated project logic models. Stakeholders were helpful in pointing out updates that affected some of the focus areas of the evaluation design. Additional stakeholder feedback regarding the evaluation design centered on ensuring that the questions addressed by the design were relevant to the evaluation questions of most interest to them. While nearly all comments aligned with the evaluation questions specified by MCC in the original solicitation, Abt deemed that a few were out of scope (e.g., comparing perceived value of PM Project staff training to past trainings). Additional feedback helped the Abt team to clarify the questions (and terminology used) for PSU and SKPD staff to avoid confusion and better focus the questions.

9.5 Notes on Finite Population Correction

All standard errors in Section 6 are calculated with a finite population correction. We correct for finite population because while we tried to survey the same numbers of employees from the different PSUs, each PSU has a different total number of employees. For example, if we surveyed 10 respondents from PSU 1 and 10 respondents from PSU 2, without the correction these responses would be weighted the same. However, suppose there are 15 total employees at PSU 1 and 100 employees at PSU 2. We would be more confident that the sample from PSU 1 is an accurate representation of the population of PSU 1 than the sample from PSU 2.

Therefore, we want to weight these observations more heavily than those of PSU 2 as we are more confident that PSU 1's sample represents its population. The finite population correction allows us to weight responses from an individual PSU based on the proportion of the PSU's employee population in our sample.

A local consultant obtained information on the number of employees at each PSU and the associated SKPD sampled. However, we were unable to obtain the information for every PSU and the associated SKPD. Therefore, for one PSU and several SKPDs for whom we do not have total employee information, we used the mean of the proportion surveyed for the other PSUs and SKPDs for which we had information.

9.6 Quantitative Analytic Results Disaggregated by Gender

This section contains the same results presented in Section 7 for the Quantitative data set collected but disaggregated by gender.

Table A5. Perceptions of Corruption, Bias, Collusion, Transparency and e-procurements by Respondent Gender

		Comparison		Treatment	
		Male(%)	Female(%)	Male(%)	Female(%)
Panel A. Perceptions of	**Within**				
Corruption	Indonesia	16.8	25	18.9	31.7
	PSU	3.9	0**	2.9	7.7**
Bias	Indonesia	17.4	15.2	15.9	33.3**
	PSU	8.1	0**	5.9	9.5
Collusion	Indonesia	16	20	21.1	37.2**
	PSU	4.6	3.1	4.4	7.5
Transparency	Indonesia	2.9	11.4*	6.6	10.9
	PSU	0.7	2.6	1.6	0**
Panel B. Perceptions of E-procurements					
Are more transparent		93	97.3*	96.8	91.7
Reduce the opportunity for corruption		89.5	97.3**	94.97	85.4**

*Notes: Number of observations ranges from 30-38 for comparison females, 39-48 for treatment females, 128-143 for comparison males, 175-190 for treatment males. p<.05 * p<.01***

Table A6. Employee Perceptions of PSU Efficiency and Quality by Respondent Gender

	Comparison		Treatment	
	Male (%)	Female (%)	Male (%)	Female (%)
Overall satisfaction with process	74.1	76.3	66	70.8
satisfaction with quality	75.4	73.7	72.5	76.6
satisfaction with outcomes	74.8	81.1	75.4	70.5
timeliness	72.7	73.7	77.2	68.1*
efficiency	73.4	75	76.7	72.3
responsiveness	76.8	78.4	82	82.6
quality of bidding documents	46.3	55.6	47.1	48.8
Average quality of bidders	52.5	42.9	48.1	42.2
for goods	62.4	51.4*	52.5	60
for services	54.8	58.8	59.1	50
for construction	57.8	48.5	52.7	63.6*
Average quality of procurement outcomes	65.6	66.7	65.1	65
for goods	74	85.7*	73.5	81.6
for services	62.9	73.5	66.7	61.1
for construction	65.9	61.8	61.8	69.2
Average fitness to purpose	79	81.6	77.8	80.4
for goods	80.6	86.5	77.8	85.1
for services	80.3	77.8	78.4	77.3
for construction	80.3	82.9	76.7	78.3

The number of observations range from 123-148 for comparison males, 34-38 for comparison females, 166-194 treatment males, and 36-48 treatment females. p<.05 p<.01***

Table A7. SKPD Staff Perceptions of PSU by Respondent Gender

	Comparison		Treatment	
	Male (%)	Female (%)	Male (%)	Female (%)
Accessibility				
Can obtain advice or assistance from PSU easily	77.5	84.6	84.7	78.9
Aware of what contracts are available for use	81.6	92.3**	81	72.2
Information required for a procurement plan is available and easy to access within work unit	76.9	92.3*	66.7	84.2*
Advised in advance of how changes by PSU will affect employee	71.8	61.5	79.3	7.37
Satisfaction				
Satisfied with services provided by PSU	75	76.9	71.9	68.4
Satisfied with the quality and accuracy of information received from PSU	67.5	84.6*	77.6	68.4
Contracts negotiated by PSU deliver quality and value for money	74.4	66.7	75.9	76.5
Delivered goods and services accurately correspond to requirement	80	92.3	87.9	73.7

The number of observations ranges from 39-40 for comparison males, 12-13 for comparison females, 57-59 for treatment males and 17-19 for treatment females. p<.05 p<.01***

Table A8. Skills Quiz Results by Respondent Gender

	Comparison		Treatment	
	Male(%)	Female(%)	Male(%)	Female(%)
Mean Quiz grade	51.1	53.1	54.3	51.9*
Percentile Distributions				
20	44.4	44.4	46.3	44.4
40	50	51.9	53.7	50
60	53.7	55.6	57.4	53.7
80	61.1	63	61.1	61.1
Max	**75.9**	**79.6**	**83.3**	**83.3**

*Notes: observations for the comparison and treatment groups were 38 females and 144 males and 48 males and 195 females respectively. p<.05 * p<.01***

Table A9. Characteristics of Staff and PSU by Respondent Gender

	Comparison		Treatment	
	Male	Female	Male	Female
Annual salary (USD)	6,687.62	4,358.53**	5,335.44	4,358.53**
Has an appointment (%)	97.4	100**	95.7	95
Length of appointment (years)	1.8	1.4**	2.1	2.3
Intends to stay for entire length of appointment (%)	91.2	96.7*	90.1	100**
Intends to make a career in public procurement (%)	81.7	56.7**	82.7	92.5**

*Notes: Observations range from 113-117 for comparison males, 28-30 for comparison females, 138-163 for treatment males and 34-40 for treatment females. p<.05 * p<.01***

Table A10. Staff Perceptions of Procurement Career by Respondent Gender

	Comparison		Treatment	
	Male (%)	Female (%)	Male (%)	Female (%)
A career in public procurement is desirable	50.4	40	62	70
Pay in public procurement is competitive	35.9	20**	19.5	22.5
Public procurement has high perceived professional stature	23.1	20	24.7	25
It is important to have permanent/functional staff	92.2	100**	88.3	87.5
The process for appointing new staff is gender inclusive	32.5	39.3	46.9	27.5**
Feels Supported Administratively and Legally	57.3	70.0*	49.1	50

*Notes: Observations range from 113-117 for comparison males, 28-30 for comparison females, 138-163 for treatment males and 34-40 for treatment females. p<.05 * p<.01***

9.7 Procurement Skills Quiz Survey Module

PT01.	Which of the following is not a fundamental principle of public procurement?	01. Accountability 02. Competition 03. Fairness 04. Collaboration 05. Transparency 06. Honesty -88. REFUSE TO ANSWER -99. DON'T KNOW
PT02.	True or false: It is good practice to document evaluation findings and the basis for award	1. True 2. False -88. REFUSE TO ANSWER -99. DON'T KNOW
PT03.	Which document would most likely serve as an alert to contractors, suppliers and consultants about upcoming procurement opportunities?	A. The procurement implementation plan B. The procurement plan C. Statement of works D. General procurement notice E. Terms of reference -88. REFUSE TO ANSWER -99. DON'T KNOW
PT04.	Which of the following is NOT advised when developing a budget?	A. Seek input from a specialist or a technical advisor B. Look at current data and disregard historical costs C. Review existing contracts or work orders D. Seek advice from colleagues E. Consider discrete elements of scope -88. REFUSE TO ANSWER -99. DON'T KNOW
PT05.	Which one of the following is NOT a solicitation document?	01. Invitation for bids 02. Memorandum for proposals 03. Request for quotation 04. Request for proposals -88. REFUSE TO ANSWER -99. DON'T KNOW
PT06.	There are two teams during solicitation document preparation: Technical Experts and Procurement Professionals. Which of the following tasks would a technical expert perform?	A. Organize pre-bid/pre-proposal conferences B. Receive and open bids/proposals C. Manage site visits D. Prepare such documents as terms of reference and specifications -88. REFUSE TO ANSWER -99. DON'T KNOW
PT07.	Which phase of the Procurement Process is Bid Receipt, Opening and Evaluation conducted during?	01. Phase 1: Procurement Planning 02. Phase 2: Solicitation/Bid Preparation 03. Phase 3: Evaluation and Contract Award 04. Phase 4: Contract Administration and Management -88. REFUSE TO ANSWER -99. DON'T KNOW

PT08.	Which of the following stakeholders are not involved in the evaluation process?	1. Procurement 2. Finance 3. Audit 4. Legal -88. REFUSE TO ANSWER -99. DON'T KNOW
PT09.	Costs received from a contractor must be _____ before they can be accepted by the spending unit budget holder	1. Budgeted 2. In local currency 3. Inflated 4. Fair and reasonable -88. REFUSE TO ANSWER -99. DON'T KNOW
PT10.	Which procurement document acts as a way of formally communication requirements/needs with the marketplace?	A. Solicitation (that is to say a procurement document) B. Market Research C. Pricing D. Contract Award -88. REFUSE TO ANSWER -99. DON'T KNOW
PT11.	Which situations are best suited to a framework agreement? (**note all that apply)**	A. Well-understood requirements B. Variable procurement volumes/quantities C. Complex requirements D. Large one-time procurements E. New technologies F. Simple requirements G. Fixed procurement volumes/quantities H. Implemented to guarantee a more efficient prices of goods/services, I. Guaranteed availability of goods/services which are required recurrently and in unpredicted volume or quantity at the time of contract signing, J. Payment is to be borne by Spending Unit which is based on the assessment/ measurement of volume/ quantity of work done by the vendors in actual. -88. REFUSE TO ANSWER -99. DON'T KNOW
PT12.	True or False: Framework agreements decrease competition leading to higher prices for goods/services.	1. True 2. False -88. REFUSE TO ANSWER -99. DON'T KNOW
PT13.	Which of the following are examples of risks resulting from inaccurate budgeting? (check all that apply)	01. Sub-standard or poor quality work 02. Large selection of bidders 03. Failure to deliver necessary requirements 04. Unclear definition of requirements 05. Lack of involvement from key stakeholders -88. REFUSE TO ANSWER -99. DON'T KNOW
PT14.	Direct costs, indirect costs, and profit are?	1. Outputs of the cost estimates 2. Documents that are separate from the cost estimate 3. Elements of the cost estimate 4. Not factors related to the cost estimate -88. REFUSE TO ANSWER -99. DON'T KNOW

PT15.	Which of these are true about total cost of ownership? (check all that apply)	A. Total Cost of Ownership is the total cost of owning and operating an asset over its expected period of use B. Most often calculating TCO is too expensive and not worthwhile C. TCOs allow for proper budgeting over time D. TCOs cannot be used in personal purchases E. TCO estimates are developed using a variety of input sources that normally go beyond those used in a normal cost model -88. REFUSE TO ANSWER -99. DON'T KNOW
PT16.	True or False: Managing requirements decreases the likelihood of a product being delivered on time and within budget constraints.	1. True 2. False -88. REFUSE TO ANSWER -99. DON'T KNOW
PT17.	What factor should NOT influence contract type selection?	1. Risk 2. Price analysis 3. Particular vendors 4. Complexity of requirements and specifications -88. REFUSE TO ANSWER -99. DON'T KNOW
PT18.	True or False: One of the benefits of monitoring performance is that it gives the contractor an opportunity to make minor adjustments before major problems occur	1. True 2. False -88. REFUSE TO ANSWER -99. DON'T KNOW

9.8 Variables used from SPSE data in Section 6.7

Variable	Label	Used in
Nama_kategori	Category Name[27]	Figures 7-14
Jna_jenis_agency	Type of Agency[28]	Tables 45-52
Jumlah_penyelenggaraan_lelang	Number of Procurements	Figure 7, Table 45
Jumlah_peserta	Number of procurement participants	Figure 8, Table 46
Dtj_tglawal	Procurement Start Date	Figure 9, Table 47
Dtj_tglakhir	Procurement End Date	Figure 9, Table 47
Nilai_penawaran	Amount Offered by Bidder	Figure 10, Table 48
Mtd_evaluasi	Evaluation Method[29]	Figure 11, Table 49
Dur_thp_781	Num of days for evaluation of bid proposals	Figure 12, Table 50
Dur_thp_802	Num of days for validation of tenderer's qualification	Figure 13, Table 51
Dur_thp_804	Number of days for decision of bid winner	Figure 14, Table 52

[27] Types of categories: Consulting Services for Business Entity, Construction Works, Procurement of Goods and Other Services. Not included in analysis because of too few observations: Individual consulting services.

[28] Types of agencies: BHMN, BUMN, Department, Attorney General/TNI/Polri, The State Ministry, Health, Other, Non Departmental Government Institutions, Local Government, District Government, City Government, Provincial Government, Central Government, Secretary General of the Commission, The Secretary General of State Agency.

[29] Types of evaluation methods: Lowest Cost, Quality, Quality and Cost, Knockout System, Value System.