

## Axiomatic Analysis of Opentender to Prevent Corruption in Electronic Public Procurement

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### ARTICLE INFORMATION

#### Article History:

Received July 23, 2025

Revised April 30, 2026

Accepted June 1, 2026

#### DOI:

[10.21532/apfjournal.v11i1.424](https://doi.org/10.21532/apfjournal.v11i1.424)

- A – Research concept and design
- B – Collection and/or assembly of data
- C – Data analysis and interpretation
- D – Writing the article
- E – Critical revision of the article
- F – Final approval of article



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### ABSTRACT

Using axiomatic analysis, this paper examines the relationship between open data and transparency in corruption prevention in Indonesia. Opentender represents a modality of e-government and open government in mitigating Public Procurement corruption. The results presented in this research were derived from document analyses and interviews with the Indonesian Corruption Watch (ICW), the initiator and administrator of Opentender. The results of this study demonstrate that Opentender, as an element of open government does promote transparency and hence address the failure of information asymmetry. Furthermore, it demonstrates a preventive capability by displaying data with potential fraud indicators, thereby enhancing information accessibility. Nonetheless, Opentender has yet to affect aspect of capacity building and empowerment. This is evidenced by the inadequate exploitation of data on Opentender as only a few stakeholders or public members use data on Opentender or utilizing Opentender as a mechanism for overseeing Electronic Public Procurement. Theoretically, this study advances the use of axiomatic analysis in understanding corruption prevention. The integration of Opentender to the existing anti-corruption institutional frameworks in Indonesia will further boost the impact of Opentender to corruption prevention in Indonesia.

**Keywords:** Axiomatic Analysis, Anti-corruption, Corruption, E-Government, Fraud, Open Data, Open Government, Opentender, Public Procurement, Transparency.

### How to Cite:

Rachmawati, T., & Calista, N. (2026). Axiomatic Analysis of Opentender to Prevent Corruption in Electronic Public Procurement. *Asia Pacific Fraud Journal*, 11(1), 1-27. <https://doi.org/10.21532/apfjournal.v11i1.424>.

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Association of Certified Fraud Examiners (ACFE)  
Indonesia Chapter  
Page. 1-27

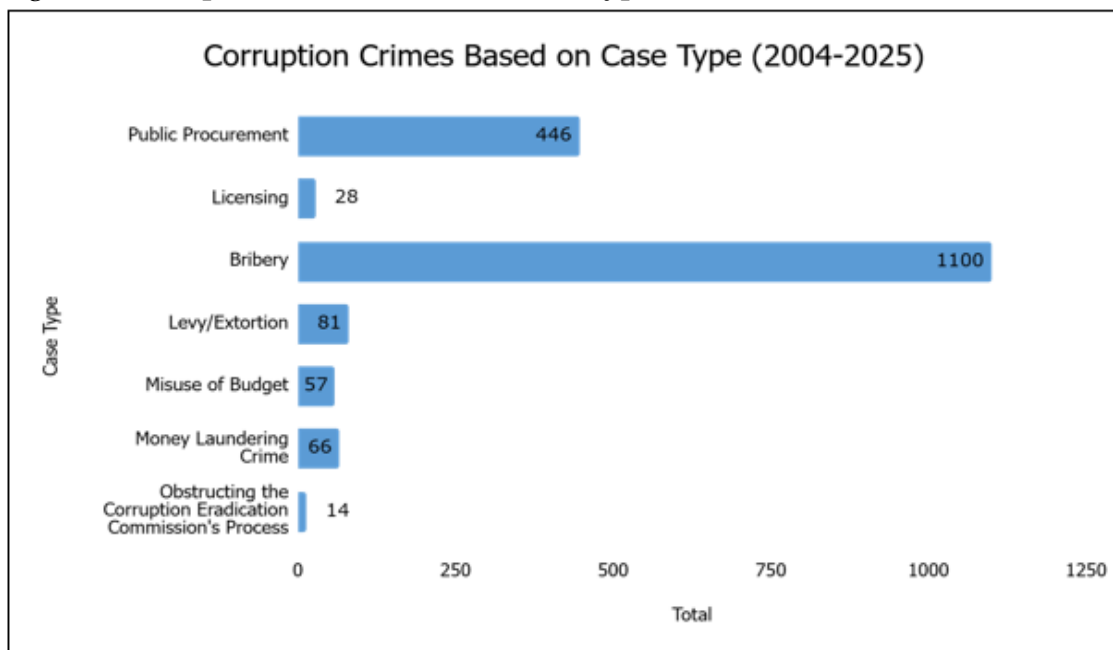
## 1. INTRODUCTION

Corruption is a significant pathology of bureaucracy in governments globally, particularly in Indonesia. Indonesia has suffered a high rate of financial losses from corruption in public procurement. According to Indonesia Corruption Watch (ICW), in 2020, 444 cases of corruption took place causing an approximate state loss of IDR 18.6 trillion, where the health and social sectors were among the ten most corrupt fields (Bima, 2023). Furthermore, the Corruption Eradication Commission's (KPK) data reveal that by 2015, as many as 12,693 public complaints regarding goods and services procurement had been registered, with 142 cases being actively investigated by the organization, while state losses reached IDR1 trillion. The aforementioned cases were mostly connected to mark-ups, fictitious bidding processes, and bid rigging conducted by politicians, bureaucrats, and businesspeople (Arifin et al., 2018; Ilham, 2022; Prakasa et al., 2022). Pervasive corruption in public procurement is an issue at all levels of government administration in Indonesia. Indonesia Procurement Watch (IPW) found that, as of 2021, as

many as 70 percent of corruption cases dealt with by the KPK concerned goods and services procurement (Prakasa et al., 2022). These corrupt acts range from mark-ups, mark-downs, fictitious reporting, abuse of authority, and theft of public funds (Afriana et al., 2020). Moreover, at the regional level, many provincial heads have become implicated in bribery cases, indicating the decentralization of corrupt practices from the center in Jakarta to the regions across Indonesia (Agustino et al., 2021; Prabowo & Suhermita, 2018). Finally, procurement corruption has even been observed at the village-level administration, where inconsistencies have been spotted in the preparation of accountability reports (Agustino et al., 2021). Consequently, given the wide scope of public procurement corruption in Indonesia, corruption in the country is both endemic and systemic (Koesoemo et al., 2023).

Diverse initiatives are undertaken to prevent and eliminate corruption in Indonesia. Two primary initiatives are being undertaken: First, the application of technology to combat corruption. The advent of technology compels the

Figure 1. **Corruption Crimes Based on Case Type**



Source: Processed Data

government to enhance transparency regarding its operations and facilitate public oversight of its actions. Second, the creation of oversight and anti-corruption bodies. Alongside technological utilization, institutions must engage and empower society to prevent apathy towards governmental activities. The formation of NGOs enables the community to monitor all governmental activities. KPK (Corruption Eradication Commission) and ICW (Indonesia Corruption Watch) are two organizations that serve as anti-corruption bodies.

Governments in multiple nations have enacted the two aforementioned measures. The fundamental premise is that a correlation exists between transparency and corruption, indicating that transparency serves as a mechanism to mitigate corruption. The government promotes transparency by ensuring public access to information, thereby enabling society to exercise direct oversight. Public engagement in overseeing governmental performance is crucial, such transparency becomes inconsequential without public interest. The government can efficiently attain transparency through implementing technology (e-government or digital government). Consequently, e-government enhances the government's accessibility, efficacy, and accountability.

To counter and prevent corruption across the world, various measures to enhance transparency and citizen involvement are incorporated. For instance, in Brazil, youths are enabled to establish NGOs whose mandate is to monitor how regional finances are distributed, especially regarding education, infrastructure development, health facilities, and water resources. The objective of this approach is to promote citizen awareness of how the governmental finances are utilized in order to reduce and prevent corruption (Foster et al., 2012). This approach can be explained using the concept of Agency Theory. The theory indicates that the measures to use e-governance approaches, such as open data platforms are intended to minimize

information asymmetry between the agent (in this case, the government) and the principle (in this case, the public) (Duguay et al., 2023). However, Public Choice Theory explains that the impact of these measures depends on the rationality of the involved individuals. The government will be corrupt where information asymmetry allows it to pursue self-interest without being watched, while citizens will be rationally indifferent to monitoring the government due to higher monitoring costs compared to the benefits (Smidova, 2020). The continued losses associated with procurement in Indonesia indicate the weakness of the existing mechanism to manage and oversee public transactions. According to the concept of agency theory, this problem can be attributed to information asymmetry between the government and the people leading to corruption (Mulyaman et al., 2023; Zogara et al., 2023).

The success of any e-governance anti-corruption initiatives depends on the context of implementation and the design features. The Seoul OPEN (Online Procedure Enhancement) initiative demonstrated success in citizen participation, with documented increases in citizen engagement and 83 corruption cases under investigation within one year of implementation. This success can be attributed to the comprehensive approach of the system, which combines technology with political will, a focused administrative strategy, and business process reengineering (Mishra, 2007). Alternatively, e-governance initiatives that do not address underlying systemic issues have a limited impact on participation. Research shows that "technology cannot overcome corruption by itself; that will require political will, focused administrative strategy, business process reengineering for simplifying and opening up the system" (Mishra, 2007). An example of such failure is the CARD system in India, where deskilling of government officials through computerization did not lead to democratization, as officials maintained a

monopoly over the key processes, meaning that “nothing changed for citizens because they were still required to bribe from the starting point” (Shim & Eom, 2009).

The gap between technologically successful but participatorily limited systems such as Indonesia’s Opentender, and comprehensive, effective systems, such as Seoul’s OPEN, forms the bedrock of this study. This paper seeks to understand what contextual and design factors determine whether e-procurement platforms can truly democratize citizen participation in anti-corruption efforts. Georgieva (2017) posits an axiomatic link between transparency and corruption, indicating that these two notions are nearly inseparable. Georgieva (2017) specifically addresses openness in public procurement as a means to mitigate corruption. In the Indonesian Dictionary, “axiomatic” refers to something that can be regarded as true without requiring proof. Notably, there is limited scholarly attention to axiomatic analysis in public procurement corruption.

This research has a novelty of being the first to apply an axiomatic measurement methodology, originally developed for poverty and inequality analysis, to the specific domain of electronic public procurement transparency through the Opentender platform. While Foster et al. (2012) pioneered the axiomatic approach for measuring corruption using survey data from traditional business environments, their framework has not previously been extended to analyze open data platforms designed to prevent corruption in public procurement processes. This study will demonstrate the axiomatic connection among open data, transparency, and the prevention of corruption. Consequently, this study demonstrates that Opentender, as a transparency project, aids in the mitigation of corruption. This paper will specifically examine the research problem: “In what ways does transparency via Opentender enhance anti-corruption initiatives?”.

## 2. LITERATURE REVIEW AND HYPOTHESIS

Transparency that is, the availability of timely and understandable information is a basic mechanism for detecting discrepancies and safeguarding institutional integrity (Chathampilly, 2012; Felizzola et al., 2024; Mandala et al., 2024; Okotie & Tafamel, 2021; Osei-afokwa, 2014; Soyulu et al., 2022). Government transparency refers to the availability of information to the public, which enables citizens to easily access information and influence government decisions (Taufiq et al., 2023). When information is made available, the scope of discretion is narrowed because corruption is more likely to occur in conditions of monopolized power and state discretion without accountability and transparency (Juwita, 2023). This theoretical relationship is consistent with Klitgaard’s formula:

$$C \text{ (Corruption)} = M \text{ (Monopoly)} + D \text{ (Discretion)} - A \text{ (Accountability)} - T \text{ (Transparency)}.$$

The availability of information is an important instrument for applying forensic accounting to detect and monitor fraudulent practices in efforts to reduce the excessive authority of officials involved in public procurement (Enigda et al., 2023; Gunasegaran et al., 2023). E-procurement systems have been recognized as tools that can increase transparency and accountability, thereby helping to reduce opportunities for corruption in the procurement process (Kusumadewi et al., 2024).

Transparency International indicates numerous advantages of transparency across diverse domains, including education, civic engagement, e-governance, ethical reform, and institutional mechanisms specifically mitigating citizen apathy, aiding public services in poverty alleviation, expanding regional income, and elevating ethical standards. Fan et al. (2009) believes that transparency

promotes the mitigation of corruption. Further, there are a number of interrelated mechanisms that allow transparency to help fight corruption (Cuadrado-Ballesteros et al., 2020). Transparency limits corruption by exposing it, thereby making it risky, difficult, and unrewarding (Bauhr & Grimes, 2017). It increases citizen participation in governance, allowing demands for better regulations and public services (Averin et al., 2021). Moreover, transparency also encourages authorities to behave with honesty, establishing authority and responsibility and demanding accountability (Cuadrado-Ballesteros et al., 2020). Additionally, transparency helps choose honest public sector partners by enabling the identification of honest organizations (Foster et al., 2012). Furthermore, transparency helps identify potential corrupt bidders since a vendor leaves electronic footprints in the online world, supporting the notion that transparency helps reveal corrupt entities based on their electronic footprint. Foster et al. (2012) developed the axioms of public procurement corruption indicators, representing the first work to utilize an axiomatic approach to measure corruption indicators. Corruption cannot be avoided in an environment of monopoly of power.

In addition to transparency, Transparency International (TI) outlines three criteria for mitigating corruption, specifically:

**a. Establishing Collaborations**

Corruption can only be perpetually monitored if representatives from government, business, and society collaborate to establish norms and protocols for its prevention.

**b. Implementing it Incrementally**

Corruption cannot be eradicated immediately; it necessitates a systematic, incremental approach to tackle the problem.

**c. Maintain a Non-Confrontational Approach**

This strategy is essential for ensuring collaboration among all stakeholders in eliminating corruption. No party

engaged in the collaboration should perceive itself as more powerful or superior to the other parties.

Information and communication technology (ICT) is applied in the government sector to reform governance. InfoDev and The Center of Democracy and Technology define Electronic Government as follows: *"E-government is the use of information and communications technologies (ICT) to transform government by making it more accessible, effective, and accountable."*

In conjunction with electronic government, employing ICT in the public sector is frequently understood as digital government. While still utilizing ICT, digital government posits that governance has already advanced; thus, the application of ICT is now focused on fostering positive interactions between the government and the people. Veit & Huntgeburth (2014) demonstrated that *"Digital government is defined as the use of Information and Communication Technologies (ICT), in particular the internet, to transform the relationship between government and society in a positive manner."*

Both electronic government and digital government contribute to the establishment of open government. Open government is a concept designed to enhance governmental efficacy and empower communities to tackle social challenges in an effective, sustainable, and equitable manner. An accessible government has become a legitimate expectation. Barack Obama declared on the official White House website:

*"My Administration is committed to creating an unprecedented level of openness in Government. We will work together to ensure the public trust and establish a system of transparency, public participation, and collaboration. Openness will strengthen our democracy and promote efficiency and effectiveness in Government."*

Obama's statement stresses that transparent governance is vital for fortifying democracy, enhancing governmental efficacy and efficiency,

building rapport between citizens and their leaders, and boosting public trust. Transparency bolsters public confidence. The robustness of democracy and the government's commitment to public trust will foster a positive connection between the government and the general public.

Veit & Huntgeburth (2014) suggest that three fundamental concepts are essential for establishing an open government: transparency, participation, and collaboration. Alongside the three primary principles previously stated, a crucial element is that the principal objective of open government is to furnish official data for enhanced public scrutiny. To establish effective public scrutiny, the government must undertake open data initiatives. The European Data Portal characterizes open data as: *"Open data is data that anyone can access, use, and share. Governments, businesses, and individuals can use open data to bring about social, economic, and environmental benefits."*

Publicly accessible and searchable data manifests government transparency in its activities. Crucially, data openness allows for automated red-flag alert detection through pattern recognition; as such, it reveals evidence of procurement misconduct such as, but not limited to, singlesourcing, outlier pricing and repeated contract awards (Mahawi & Israel, 2024; Taufiq et al., 2023). It forms the basis for platforms such as opentender. In forensic accounting, red flags are alert mechanisms for fraud and corruption (Oyedokun, 2017; Ozili, 2016). Consequently, efficient public oversight can be established. Open data also improves the public's capacity to hold the government responsible for its activities.

Electronic procurement is a method of enacting open government via the utilization of open data. E-procurement refers to the acquisition of public goods and services via an online platform. Veit & Huntgeburth (2014) characterize e-procurement as *"the use of ICT throughout the whole public procurement process. From this angle, ICT supports both internal*

*processes like assessment of tenders and external processes like ordering or submission of tenders.* E-procurement functions not only as a platform for online acquisition of goods and services but also as a resource for individuals, whether in the private or public sector, to analyze and evaluate many aspects pertaining to these goods and services.

Besides fostering public goodwill and enhancing trust, the pragmatic advantages of transparency include heightened competitiveness and improved value in public procurement of goods and services. Providing auction data for government goods and services enables public oversight and enhances governmental accountability, thereby mitigating corruption risks by preventing the exploitation of governmental discretion through data openness.

UNDP explains how the application of e-government in the Asia-Pacific region impacts the reduction of corruption in four ways, as follows:

#### **a. Prevention**

E-government streamlines regulations and procedures while re-engineering governmental processes and systems, thereby mitigating the misuse of discretion and opportunities for corruption. The transparency of data and information facilitates public oversight of governmental acts, hence mitigating chances for corruption.

#### **b. Enforcement**

E-government promotes the adoption of digital processes that enable the monitoring of governmental decisions and actions. Centralized data enables the implementation of objective and unbiased sample processes during the audit process, thereby preventing the abuse of power or governmental discretion, similar to the preventive stage.

#### **c. Access to Information and Empowerment**

The online dissemination of government information can enhance accountability by supplying the public

with proof to bolster their concerns against alleged corrupt practices within the government.

#### **d. Capacity Building**

E-Government necessitates three critical components: enhancing telecommunications infrastructure, cultivating human resources, and promoting a positive work culture. The absence of media or ICT infrastructure to communicate transparency undermines the effectiveness of e-government in combating corruption, regardless of the political will for transparency. The shortage of personnel with ICT comprehension and the inadequate work culture within the government may also hinder the effectiveness of digital governance in combating corruption.

Capacity Building is the most vulnerable component among the four; hence, many attempts at fighting corruption through e-government often fail despite the modern technological means utilized. Extensive research carried out throughout the Asia-Pacific region indicates that technology alone turns into a “digital display” without sufficient staff knowledge in analyzing data and operating systems to monitor their integrity (Sinuraya & Rachmawati, 2017; Utami & Barokah, 2024). According to the ADB/OECD Anti-Corruption Initiative for Asia and the Pacific, any sustainable reform entails not only the development of infrastructure but also investment in procurement personnel’s education regarding analytics and transparency. Research in the construction sector reveals that any attempt to implement effective e-procurement requires hiring specialists, such as accountants, capable of dealing with non-financial reports and disclosing anti-corruption information. However, the greatest deficit of such capacities is present in developing countries, where governments lack the financial resources to develop infrastructure and train qualified personnel simultaneously.

The Anti-Corruption Summit London 2016 resulted in the Global Declaration Against Corruption, encompassing 600 commitments endorsed by 43 nations, including Indonesia. These commitments focused on eliminating corruption, promoting government transparency, enforcing international anti-corruption legislation, and fortifying international institutions. During the conference, Indonesia presented three statements with 12 sub-statements encompassing 19 commitments. Among the 12 sub-statements, one pertains to transparency in government procurement of goods and services, accompanied by two pledges as follows:

[Public Procurement and Fiscal Transparency]

- a. We will work toward the full implementation of the G20 Principles for Promoting Integrity in Public Procurement and the relevant provisions of the United Nations Convention Against Corruption.
- b. We will work toward fully implementing the G20 Anti-Corruption Open Data Principles.

The two commitments are explained in depth in the table 1.

### **3. METHODS**

The chosen methodological approach is qualitative, which is rooted in a more general interpretive paradigm that aims at describing and interpreting social phenomena, focusing on meaning, not frequencies (Johnson, 2024). This methodology is justified since the understanding and interpretation of social reality, as well as the development of theories, are crucial in anti-corruption research. The research goal is verification; it focuses on assessing corruption-prevention measures in open tender procedures through an interpretive analysis of procurement procedures.

This study employs an axiomatic analysis methodology that is primarily used in mathematics. Sarah Wylie

elucidates the axiomatic procedure as follows:

*"The axiomatic method is a way of proving the truth of a certain statement. The statement is said to be true if it follows logically from a number of statements that are in turn the logical result of other statements."*

At the inception of evidence discovery using the axiomatic technique, many definitive assertions, referred to as axioms, are accepted as true without requiring proof. To construct an argument utilizing the axiomatic approach, there must be a consensus on accepted premises, with both the author and the reader sharing a standard comprehension of the axioms, which are regarded as true without requiring additional justification. In the absence of a statement that both the opponent and the reader can mutually acknowledge, the theorist cannot advance their argument using the axiomatic approach. This research posits that open data and transparency contribute to preventing corruption.

Lee et al. (2021) and Levy (2017) explain the significant distinctions in applying the axiomatic method in mathematics, sociology, and the social sciences. In mathematics, axioms are clearly articulated in proofs. In the social sciences, the assumptions of social theory are typically implicit or not explicitly

articulated. Second, in mathematics, the repeated occurrence of an event will lead to an axiomatic argument. This prompts an inquiry into whether the occurrence may be universally generalized to occur in all instances or to manifest at least once under varying conditions. In sociology, the appropriate question regarding a recurring event is not whether it will perpetually occur, but rather the reasons or mechanisms underlying its occurrence. Third, in mathematics, it is more readily acceptable to see certain assertions as justified without proof, as empirical experience and the observation of phenomena contributes to the argument. Consequently, a fundamental approach for argumentation, or the most effective axiom for a sociologist, is to juxtapose personal experiences with those substantiated by research findings. In addition to the axiomatic method, there exists the axiomatic approach. Foster et al. (2012) explained: *"The axiomatic approach entails formal definition of potentially important properties of a measure (namely, the axioms) and then the classification of measures according to such properties."*

The research axioms employed in this study are as follows in Table 2. The research approach of this study is qualitative study with a focus on a case study research design. This approach and design have been identified as an appropriate approach

**Table 1. The Indonesian Government's Commitment to the Global Declaration Against Corruption-The Anti-Corruption Summit, London 2016**

|                                                                                                                                                                         |                                                                                                                                                                                                                   |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Promoting Integrity in Government Procurement of Goods and Services in accordance with the OECD Compendium of Good Practices for Integrity in Public Procurement (2014) | 1. Promoting an adequate level of transparency the public procurement system<br>2. Safeguarding the integrity of public procurement<br>3. Mitigating risks of corruption<br>4. Fostering accountability           |
| Open Data Principles (2014)                                                                                                                                             | 1. Open Data by Default<br>2. Timely and Comprehensive<br>3. Accessible and Usable<br>4. Comparable and Interoperable<br>5. Improved Governance and Citizen Engagement<br>6. Inclusive Development and Innovation |

Source: Processed Data

when conducting qualitative research on complex phenomena (Ibrahim & Victoria, 2022; Mtisi, 2022) such as corruption in public procurement. It allows for a deep investigation of certain problems by using various sources of data, which helps researchers acquire profound knowledge about the phenomenon (Chowdhury & Shil, 2021). Moreover, using a case study design in qualitative research on topics related to the public sector is common practice.

**Table 2. Evaluation Elements in the Axiomatic Analysis of Opentender in Corruption Prevention**

| <b>Open Government through Open Data</b>                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Open governance necessitates open data to provide government openness. Open data has two objectives in combating corruption:                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <ul style="list-style-type: none"> <li>- <b>Prevention.</b> Open data, by granting the public access to government information, mitigates the abuse of discretion and diminishes the potential for corruption.</li> <li>- <b>Capacity Building.</b> Open data requires the existence of ICT infrastructure, adequate human resources, and a conducive work culture within government organizations.</li> </ul> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Transparency</b>                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Transparency results in two factors: Access to Information and Empowerment.                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Access to Information</b>                                                                                                                                                                                                                                                                                                                                                                                   | <b>Accessibility to Data</b> <ol style="list-style-type: none"> <li>1. <i>Opentender</i> is made available on a centralized platform, thereby improving accessibility for data user.</li> <li>2. <i>Opentender</i> is designed to facilitate user accessibility through a digital participation platform.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Access to Information</b>                                                                                                                                                                                                                                                                                                                                                                                   | <b>Data Quality Usable Data)</b> <p>Data on <i>Opentender</i> are disseminated in an accessible fashion, catering to a diverse array of users.</p> <p>The data on <i>Opentender</i> are formatted uniformly and are accessible from any computer.</p> <p>The data on <i>Opentender</i> are available at no cost, under an unrestricted license, and do not require mandatory registration</p> <p>The data provided by <i>Opentender</i> are readily comparable and traceable.</p>                                                                                                                                                                                                                                                                                   |
| <b>Access to Information</b>                                                                                                                                                                                                                                                                                                                                                                                   | <b>Data Quality (Timely and Comprehensive data )</b> <p><i>Opentender</i> provides guidance for identifying datasets, standards, and tools critical to anti-corruption initiatives.</p> <p><i>Opentender</i> offers high-quality, timely, complete, clear, primary, and precise data.</p> <p>The data provided on <i>Opentender</i> should, to the greatest extent feasible, retain their original form (primary data) and may be associated with any visualization or analysis derived from them.</p> <p>Data on <i>Opentender</i> must be adjusted if inaccuracies or if updates are required to maintain high data quality.</p> <p>Historical copies of the datasets on <i>Opentender</i> must be stored, archived, and available for a sufficient duration.</p> |
| <b>Empowerment</b>                                                                                                                                                                                                                                                                                                                                                                                             | <ol style="list-style-type: none"> <li>1. The number of visitors to the <i>Opentender</i> website.</li> <li>2. Campaigns and promotions for <i>Opentender</i>.</li> <li>3. Research on e-procurement using <i>Opentender</i>.</li> <li>4. A mechanism for feedback reporting.</li> </ol>                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

Source: Processed Data

Data were acquired primarily from secondary sources, and supplemented by primary data. The former consists of sources available on the websites [www.opentender.net](http://www.opentender.net), and [eproc.lkpp.go.id](http://eproc.lkpp.go.id), along with print/electronic media, relevant academic publications, and legal regulations. The latter sourced from interviews with the ICW Knowledge Management Section using purposeful sampling, which is widely used in qualitative research when selecting information-rich cases. The study employed an unstructured interview protocol that was flexible during the interview process. Five informants were interviewed with each interview taking about two to three hours thus allowing a significant amount of information to be explored comprehensively. Combining primary and secondary data helps researchers cross-verify their findings (Farquhar et al., 2020). The use of both kinds of sources complies with qualitative research traditions that emphasize comprehensive methods of data acquisition (Alam, 2005).

Qualitative analysis was performed at the aggregation level by applying two evaluation approaches. These approaches were conducted by conducting a transparency assessment according to the UNDP e-note and a data quality assessment based on the G20 Open Data Principles. The data triangulation technique was applied to assess the quality of the information collected, since it enables the analysis of the phenomenon from several perspectives, making it possible to ensure dependability (Bashir et al., 2008; Golafshani, 2015). Data triangulation, which involves utilizing different types of sources (including documents, archives, interview results, and observational data), is aimed at ensuring the reliability and credibility of the obtained data in qualitative research. Using different sources of information can help mitigate the risks associated with potential informants' bias, since the collected data can be cross-checked across time periods and data acquisition methods. Recent research confirms the positive

impact of triangulation on construct validity in qualitative research (Farquhar & Michels, 2016).

#### 4. RESULTS AND DISCUSSION

Opentender is an initiative to transparently disseminate data to the public in compliance with open data principles to oversee the electronic public procurement. Opentender commenced in 2012 and is overseen by the knowledge management division of Indonesia Corruption Watch (ICW) in partnership with the Government Goods/Services Procurement Policy Agency (LKPP), the Financial Audit Agency (BPK), the Corruption Eradication Commission of the Republic of Indonesia (KPK), and the Presidential Working Unit for Supervision and Control of Development (UKP4). ICW and LKPP have renewed the Memorandum of Understanding for collaboration in the biannual release of electronic PJB data. In the memorandum of understanding, LKPP shares data pertaining to e-procurement with ICW. The Memorandum of Understanding was initially executed in 2013 and remains in effect until the present year, 2025.

The specific aims of *Opentender* are to:

- a. Identify and validate the potential risk of fraud in electronic public procurement
- b. Enhance the utilization of e-procurement in public procurement activities at both central and regional levels
- c. Eliminate pathways that foster unhealthy business competition or contravene corruption laws
- d. Equip supervisory institutions and stakeholders with tools to detect potential infractions in the e-procurement process
- e. Offer a preliminary assessment prior to initiating an investigation into the identified fraud.

Opentender will be evaluated based on the components outlined in the Table 2, as elaborated in the method section. The findings indicate that Opentender, as an aspect of electronic governance also referred to as open government and open data facilitates the prevention of corruption

through its transparency features. The following will explain how Opentender fulfils the function of open government.

### **Opentender and Its Prevention Function**

Opentender employs the Potential Fraud Analysis (PFA) method to evaluate the risk of fraud in each electronic procurement package. This PFA comprises five criteria that served as the basis for fraud identification until 2020. Since 2020, the criteria for PFA have been expanded from five to seven. In the following Table 3, the additional criteria are described.

Each indicator above serves as a mechanism to detect potential fraud risks. A high-risk valuation in assessing a public procurement package does not necessarily indicate fraud or misconduct in the procurement process. To confirm the presence of fraud in a public procurement process, additional scrutiny and investigation must be undertaken both online and offline. This approach is referred to as a Public Procurement Fraud Investigation. This can be further developed to ensure the capacity-building function of Opentender.

Opentender is a preventive instrument, offering crucial information for overseeing all electronically conducted PJBs. This supervision can serve as a preventive measure. This aligns with the statements made in the UNDP Asia-Pacific Development Information Programme E-note 8/2006, which posits that implementing ICT in governmental frameworks can streamline and enhance governmental operations, bureaucracy, and governance structures, thus mitigating the potential for discretionary misuse and corruption.

### **Opentender and its Capacity Building Function**

Initially, Opentender concentrated on monitoring five Electronic Procurement Services (or Layanan Pengadaan Secara Elektronik/LPSE): Makassar, Kebumen, Madiun, South Tangerang, and Mataram. The collaboration successfully enabled

the transparency of procurement data for goods and services across 535 LPSEs. The partnership promotes several institutions to cultivate a transparent work culture, thereby facilitating the establishment of transparency. The establishment of this work culture is essential for the success of open government, as argued by the UNDP Asia-Pacific Development Information Programme E-note 8/2006.

A more suitable approach for proving that Opentender, as an open government project, promotes capacity-building is through causal or consequential analysis. Causal analysis must demonstrate that Opentender influences the increase in institutions, ministries, or regional Governments utilizing LPSE. Nonetheless, we acknowledge that the rise in LPSE users is predominantly influenced by central government rules, specifically those imposed by the LKPP, which require the utilization of LPSE.

Nevertheless, an axiomatic analysis may also be performed to verify this. In the context of Opentender, if all stakeholders in public procurement possess genuine objectives to enhance the transparency and quality of public procurement that utilizes public funds, they will not negatively perceive the use of LPSE. The Opentender process enhances the culture of transparency among public organizations. The utilization of LPSE, which prioritizes electronic procurement, ensures that the procurement process is handled transparently. Monitoring public procurement via opentender by identifying fraud risk is feasible only when public procurements are online. The greater the number of LPSE, the easier it will be to oversee public procurement. The higher the number of public procurement processes undertaken outside LPSE, the more diminished openness is Indonesia's procurement, as these processes cannot be tracked through opentender monitoring. This discovery constitutes a limitation of this investigation.

**Opentender Increase Access to Information.** public access to data. The first principle is to disseminate data through a centralized gateway to improve user accessibility. The G20 anti-corruption open data principles suggest that two essential criteria must be implemented to facilitate accessibility through a participatory digital

Table 3. Indicators for Potential Fraud Analysis (PFA)

| No. | Indicator                                                                  | Scoring                                                                                                                             | Remarks                                                                                                                                                                                                                                                                                                                                                    |
|-----|----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | The interval between the announcement date and the selection of the winner | 1: 0-25 days<br>2: 26 – 35 days<br>3: 36 – 45 days<br>4: 46 – 70 days<br>5: >70 days                                                | A longer interval between the announcement date and the selection of the winner may signify inefficiencies in the procurement process.                                                                                                                                                                                                                     |
| 2   | Comparison of Contract Value and self-estimated value                      | 5: >0<br><br>5: 0 – 0.99<br>4: 1 – 1.99<br>3: 2 – 2.99<br>1: 4 – 7.99<br>2: 8 – 11.99<br>3: 12 – 15.99<br>4: 16 – 19.00<br>5: >= 20 | The contract value exceeding the self-estimated value is prohibited under procurement regulations for goods and services.<br><br>The likelihood of fraud increases as the contract value nears the self-estimated value. On the other hand, a contract value significantly lower than the HPS suggests inadequate planning and a heightened risk of fraud. |
| 3   | High Contract Value                                                        | 1: 0 – 500 millions<br>2: > 500 millions - 5 Billions<br>3: >1 – 5 Billions<br>4: >5 – 10 Billions<br>5: >10 Billions               | The higher the value of a procurement contract, the greater the potential risk of fraud.                                                                                                                                                                                                                                                                   |
| 4   | Tender with a title of less than 20 characters                             | 5: 0 – 20<br>4: 21 – 40<br>3: 41 – 60<br>2: 61 – 80<br>1: >80                                                                       | Tender titles with too few characters indicate a lack of integrity. A short title can reduce the chances of potential providers participating in the tender.                                                                                                                                                                                               |
| 5   | Tender with a description of less than 60 characters                       | 5: 0 – 60<br>4: 61 – 120<br>3: 121 – 180<br>2: 181 – 240<br>1: > 240                                                                | Tender descriptions with too few characters indicate a lack of integrity. A brief description can also reduce the chances of potential providers participating in the tender.                                                                                                                                                                              |
| 6   | Procurement in the fourth quarter                                          | 1: January – June<br>2: July – September<br>3: October<br>4: November<br>5: December                                                | Procurement in the fourth quarter may suggest expedited budget expenditure, leading to unsatisfactory results.                                                                                                                                                                                                                                             |
| 7   | Repeated Winner                                                            | 5: > kali<br>4: 4 kali<br>3: 3 kali<br>2: 2 kali<br>1: 1 kali                                                                       | Examining the frequency of a company's victories in government procurement within a single fiscal year; an increased number of wins in the same fiscal year correlates with a heightened possibility of fraud.                                                                                                                                             |

Source: Processed Data

platform. These two ideas are realized through opentender.

Opentender, as a manifestation of open government, enhances information accessibility. Opentender is a digital platform designed to facilitate the monitoring of electronic procurement (e-procurement). According to the interview findings with Indonesia Corruption Watch (ICW), it is evident that while PBJ data exists at each LPSE, the data is fragmented and inaccessible from a centralized platform. The LKPP online portal merely links to many websites throughout Indonesia. Members of the public seeking to access data on the LKPP website must select the appropriate regional webpage before obtaining the desired information. In partnership with LKPP, opentender aggregates all electronic PJB data from each LPSE, conducts a Potential Fraud Analysis on the public procurement data, and disseminates it on a portal/website accessible at anytime by anyone. Consequently, anyone, particularly the public, can scrutinize the allocation of state funding via PBJ. This is a passage from the interview with ICW:

*"All LPSEs must submit their data to LKPP to ensure it is entirely accessible. In a single province, there are approximately 500 procurements. [Open tender] is a mechanism that enables the direct extraction of this extensive data. The distinction is that Opentender gathers data and incorporates a risk evaluation. To facilitate monitoring."*

The following table 4, summarizes the differences between accessing PBJ data through *eproc.lkpp.go.id* and *Opentender.net*, based on the author's experience. According to that table 5, *Opentender* is more user-friendly than the LKPP website. This undoubtedly enhances public access to information, enabling the community to play a more effective role in oversight.

#### **Opentender Improves the Quality of Public Procurement in Indonesia**

Opentender facilitates easy access to information and aims to provide high-quality public procurement data. The quality of data can be assessed through two dimensions: usability, and timeliness and comprehensiveness.

**Table 4. The Difference between *eproc.lkpp.go.id* and *Opentender.net***

| Website <i>eproc.lkpp.go.id</i>                                                    | Website <i>Opentender.net</i>                                                                                                                                                                                                                                        |
|------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| It connects national LPSE websites.                                                | It presents electronic public procurement data in Indonesia                                                                                                                                                                                                          |
| Data on public procurement is presented in real-time in each region.               | The public procurement data is not provided in a real-time and timely fashion due to the necessity of awaiting the completion and collection of data by the LKPP at each LPSE. Also, the data requires processing to incorporate the potential for fraud/corruption. |
| No fraud/corruption potential score is assigned to each public procurement package | Every public procurement package is assigned a potential score for fraud/corruption.                                                                                                                                                                                 |
| The data is presented according to the most recent public procurement package.     | The data is presented according to the fiscal year, purchase type, funding source, entity, and geographical area.                                                                                                                                                    |
| It only presents data on public procurement                                        | The data is simple to utilize and manage, and it can be downloaded in multiple formats.                                                                                                                                                                              |

Source: Processed Data

The table 5 above indicates that *Opentender* has complied with the G20 Anti-Corruption Open Data Principles, namely:

- a. Data is published in an open format and is available to a wide range of data users.
- b. The data is available at no cost, accompanied by an unrestricted license, and without compulsory registration.
- c. The presented data can be easily compared and traced.
- d. Data openness for corruption prevention is accompanied by guidelines for identifying datasets, standards, and tools related to anti-corruption efforts. In *Opentender*, this is realized through assessing potential fraud risks in electronic public procurement.
- e. The presentation of data is accompanied by provisions regarding the development of data ownership related to corruption prevention. The data in *opentender* is controlled by LKPP, the principal entity responsible for ensuring data openness at each LPSE across Indonesia.

- f. The data provided should, to the greatest extent feasible, retain its original form (primary data) and may be associated with any visualization or analysis derived from the submitted data.
- g. Data is always revised if there are errors or updates to ensure good data quality. *Opentender*, which can be found at <https://www.Opentender.net/>, is currently in its fourth version. This means that *Opentender* is always updated to anticipate errors due to bugs (program defects).
- h. Data needs to be provided with historical copies of the dataset stored, archived, and which remain accessible for a reasonable period.

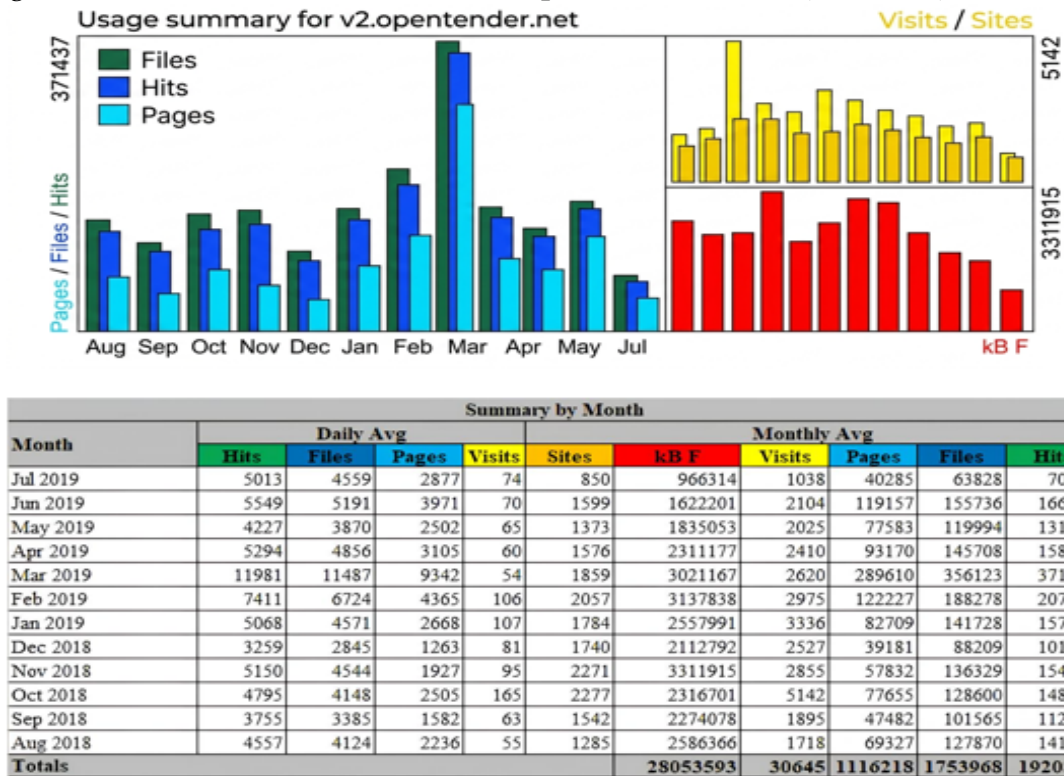
Among the G20 anti-corruption open data principles, only the concept of Timely Data remains unfulfilled. The data acquired from LKPP must be processed initially to incorporate the potential risk value of fraud.

**Table 5. How *Opentender* Facilitates Easy Access to Information**

| Usable Data                                                                                                                                                                                                                                                                                                                                                              | Timely and Comprehensive Data                                                                                                                                                                                                                              |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Data is published in an open format, covers a wide range of periods, and is presented in a standard format that can be accessed by any computer. The data accessed on <i>Opentender</i> includes JSON, JSON (with Escape), XML, SQL, CSV, TXT, XLS, Word, PNG, and PDF. All those types of files can be easily accessed and used by computers with any operating system. | <i>Opentender</i> provides guidance for finding datasets, standards, and tools essential to anti-corruption initiatives, specifically Potential Fraud Analysis.                                                                                            |
| Data is provided at no cost and may be utilized without restrictions. An interview with ICW revealed that "The [ <i>Opentender</i> ] system is explicitly designed for unrestricted access, even without a login requirement. On the other hand, if it's in app form, you must first download the program from the Play Store."                                          | <i>Opentender</i> improves data quality by integrating potential fraud criteria into each data point. However, its shortcoming lies in its inability to swiftly update data, as entering information necessitates assessing potential fraud or corruption. |
| The data provided can be readily traced to all information from every LPSE reported to LKPP. All data on <i>Opentender</i> can be accessed and traced back to its corresponding LPSE.                                                                                                                                                                                    | Data is incredibly valuable. It can be swiftly employed to monitor the use of public funds.                                                                                                                                                                |

Source: Processed Data

Figure 2. The Number of Visitors to the Opentender Website (Version 2)



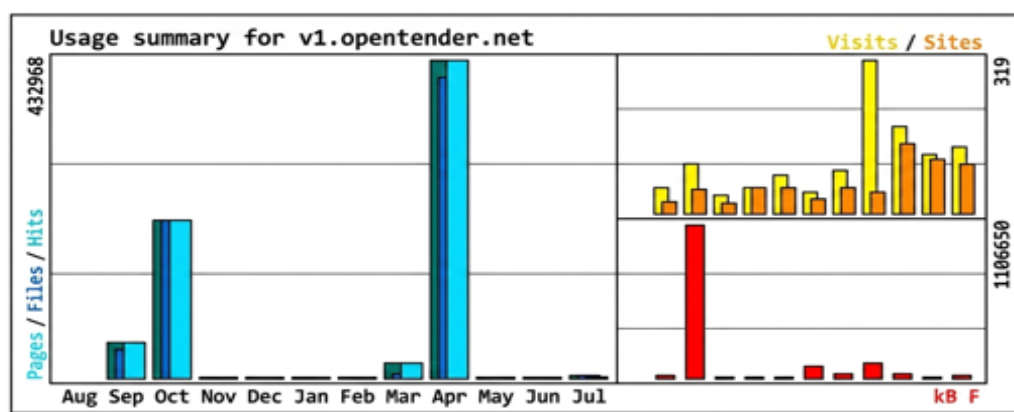
### Opentender is a Tool for Empowerment

Opentender, as open data, aims to engage and enable the community to oversee public procurement. The premise is that unrestricted public access to data allows direct oversight of any fraud or corruption in PBJ. Nonetheless, it remains insufficiently robust to function as an empowerment instrument capable of engaging and enabling the community to utilize Opentender as a monitoring tool for electronic public procurement. ICW recognizes this, as expressed in this interview excerpt:

*"For the general public, comprehending on a large scale is indeed quite challenging due to the inherently data-centric nature of the information." Individuals perceive what they concentrate on, specifically the numerical data. It is challenging to popularize. We are endeavoring to conduct campaigns for monitoring and procurement on ICW's social media; nevertheless, our primary focus typically revolves around training sessions and seminars for students, journalists, and civil society."*

Moreover, Opentender has not yet emerged as an empowerment tool due to various factors, including the limited traffic to the Opentender website, insufficient promotions and outreach, minimal utilization of opentender data, and the lack of feedback mechanisms on the platform. The lack of public involvement with the existing information may be explained using the concept of rational apathy presented by the theories of behavioral economics and public choice. According to this approach, citizens view analyzing procurement data as an activity which not only consumes a lot of time but also provides no benefits for them. As a result, they do not see any motives for being involved in the process (Duguay et al., 2023; Smidova, 2020). In this situation, the rate of roughly 30,000 page views per year becomes reasonable. People do not tend to invest effort into performing tasks which provide neither financial nor social benefit but contribute to providing a general good for society (Prakasa et al., 2022; Sanda et al., 2024).

Figure 3. The Number of Visitors to the Opentender Website (Version 1)



| Summary by Month |           |       |       |        |             |         |        |        |        |        |  |
|------------------|-----------|-------|-------|--------|-------------|---------|--------|--------|--------|--------|--|
| Month            | Daily Avg |       |       |        | Monthly Avg |         |        |        |        |        |  |
|                  | Hits      | Files | Pages | Visits | Sites       | kB F    | Visits | Pages  | Files  | Hits   |  |
| Jul 2019         | 191       | 158   | 140   | 9      | 104         | 14936   | 138    | 1969   | 2214   | 2682   |  |
| Jun 2019         | 34        | 26    | 18    | 4      | 111         | 5167    | 121    | 542    | 784    | 1029   |  |
| May 2019         | 70        | 58    | 40    | 6      | 144         | 22739   | 180    | 1201   | 1752   | 2129   |  |
| Apr 2019         | 14432     | 13625 | 14409 | 10     | 45          | 111667  | 319    | 432288 | 408752 | 432968 |  |
| Mar 2019         | 671       | 186   | 657   | 2      | 53          | 27476   | 89     | 20374  | 5786   | 20803  |  |
| Feb 2019         | 24        | 22    | 18    | 1      | 31          | 86051   | 45     | 518    | 632    | 673    |  |
| Jan 2019         | 22        | 18    | 13    | 2      | 54          | 6518    | 79     | 408    | 577    | 684    |  |
| Dec 2018         | 19        | 16    | 11    | 2      | 55          | 2735    | 55     | 306    | 437    | 514    |  |
| Nov 2018         | 9         | 8     | 4     | 1      | 20          | 1817    | 38     | 133    | 235    | 279    |  |
| Oct 2018         | 6942      | 6925  | 6891  | 3      | 50          | 1106650 | 101    | 213624 | 214693 | 215211 |  |
| Sep 2018         | 4850      | 3934  | 4795  | 5      | 24          | 19007   | 54     | 47954  | 39342  | 48507  |  |
| Totals           |           |       |       |        |             | 1404763 | 1219   | 719317 | 675204 | 725479 |  |

Notes:

1. A pageview is the number of pages viewed by visitors.
2. Hits: Each request to the webserver will generate 1 hit. Technically, 1 hit is 1 HTTP request to the website.
3. Visits are the number of times the website is visited
4. Sites: Visits in 1 month conducted by a computer with the same IP address and browser.
5. Files: The amount of data opened by visitors

### The Number of Visitors to the Opentender Website

The following graph provides information about the number of visitors using the opentender website. Opentender visitors can be interpreted as having awareness of opentender as a tool for monitoring electronic public procurement. However, the following data shows that the number of opentender website visitors from August 2018 to July 2019 decreased month by month in version 2. In contrast, in version 1, there were many visitors in April 2019, which then drastically declined. Even when looking at the visitor data for version 2, the average daily visitors did not exceed 200, and the total number of visitors from August 2018 to June 2019 was only 30,645 people. In almost a year (11 months), the

number of Opentender visitors was only around 30,000.

### Campaigns and Promotions

The interview with ICW indicates that the organization has already undertaken initiatives to advocate on social media. ICW explained in the following statement:

*"We focus on running campaigns for monitoring and procurement on ICW's social media; however, our primary focus remains on training sessions and seminars for students, journalists, and civil society."*

*Nonetheless, social media posts regarding Opentender, particularly those advocating it as a means for the public to oversee e-procurement, are very few.*

In 2019, a search on the social media network Twitter (X) using the terms

Opentender and ICW produced only 15 tweets. There were two accounts belonging to ICW friends, one account from KPK, one account from ICW, and three accounts from Tama Satrya Langkun, who previously served as the coordinator of the ICW public campaign division. The remainder consisted of Twitter users (eight accounts).

In 2019, the YouTube site had merely 15 videos concerning Opentender, with the first being uploaded by Transparency International, garnering 3,410 views. The video was a component of the Future Against Corruption 2018 competition. The remaining 15 videos were uploaded by ICW via the Sahabat ICW account. The 13 videos comprise 7 focused on tender data investigations, 1 introducing Opentender, 2 discussing Opentender, 1 providing a quick overview of training in Makassar,

and another short video documenting the Opentender data hackathon competition organized by ICW, DAN, LKPP, and PGN.

In 2019, there were merely 7 postings regarding Opentender on Instagram. There were four articles regarding news utilizing Opentender data; two addressing future initiatives against corruption; one supporting Opentender version 2.

Regarding training and seminars to promote Opentender, ICW recognizes the constraint of collaboration, which is limited to a single university. Presented below is the excerpt from the interview:

*"Indeed, our sole collaboration is with UNPAR."*

In addition to universities, ICW also collaborates with inspectors in several regions. Data on *Opentender* is used for auditing, as in the following interview excerpt:

Figure 4. Social Media Content (Twitter/X) on the Introduction & Promotion of Opentender



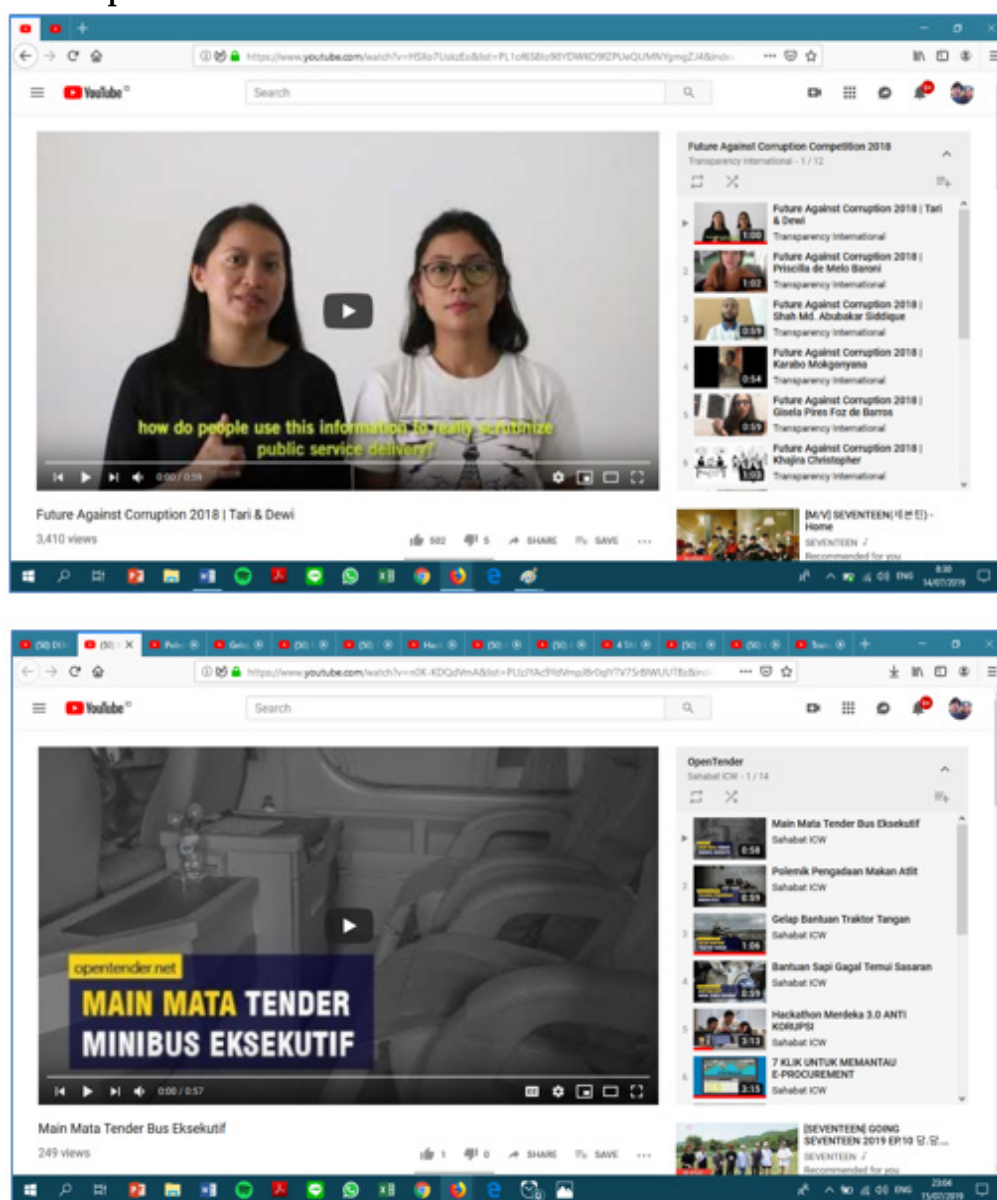
*“Various inspectorate authorities utilize the data in Opentender for their audits. In certain local inspectorates, procurement audits were previously conducted using random sampling. They utilize statistics from the top ten provided by Opentender. They now examine the top ten and conduct audits on that selection, leaving out random sampling. They independently assess it utilizing Opentender. Additionally, there are numerous inspectorate offices where we promote Opentender. However, the other offices (inspectorates) may utilize Opentender directly without the necessity of formally collaborating with ICW.*

*This applies to Sulawesi, which encompasses the inspectorate offices at Kendari, Makassar, and Manado. In Aceh and Denpasar”.*

### Utilization of Opentender Data

In 2017, ICW partnered with many NGOs and local journalists in Sulawesi, specifically in Manado, Makassar, and Kendari, to utilize Opentender data. The training yielded journalistic reports or news pieces derived from Opentender data. The following clip from an interview with ICW elucidates the program in these three places.

Figure 5. Social Media Content (Youtube) on the Introduction & Promotion of Opentender



*"It is a fellowship program that provides funding to cover costs for journalists for two months, concentrating on investigations utilizing Opentender data by individual from Sulawesi. It was disseminated in regional publications by local journalists. The outcome of the investigation by the journalists subsequently led to the creation of those news stories."*

In early April 2019, ICW and LKPP partnered to provide training in three cities on the island of Java. The cities include Semarang, Yogyakarta, and Bojonegoro. The training tracking results are displayed in the table below. The search for news using the keyword "Opentender" result in just 8 articles, along with 4 additional

articles from the Opentender website.

### Feedback Mechanism

In 2018, ICW began developing materials for the Opentender app as an alternative to the website. In 2019, the beta version of the Opentender application was launched. However, until now, the app version of Opentender is still not ready. The following interview with ICW illustrates this:

*"For the app, it was still in trial, because we wanted to make it easier for the community to give feedback, but it was still very much in beta version, an Android app, and the basis is that we want it to be like when you open the map app, so they can see what is available around them (the community). But it's still not there yet, still far off."*

Figure 6. Social Media Content (Instagram) on the Introduction & Promotion of Opentender



Table 6. News Reports Using Opentender Data

| Title                                                                                                                                                                                                                                                                                                                                           | Author                          | Date              |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-------------------|
| Drug shortages hits four cities, BPJS warns of fraud ( <a href="https://www.thejakartapost.com/news/2019/03/05/drug-shortages-hits-four-cities-bpjs-warns-of-fraud.html">https://www.thejakartapost.com/news/2019/03/05/drug-shortages-hits-four-cities-bpjs-warns-of-fraud.html</a> )                                                          | Aleksandar Karanov              | 5 March 2019      |
| ICW Regrets Low Public Awareness in Monitoring Public Procurement ( <a href="https://www.hukumonline.com/berita/baca/lt5d1601474e8f1/icw-sayangkan-rendahnya-kesadaran-publik-awasi-pengadaan-barang-jasa/">https://www.hukumonline.com/berita/baca/lt5d1601474e8f1/icw-sayangkan-rendahnya-kesadaran-publik-awasi-pengadaan-barang-jasa/</a> ) | Mochamad Januar Rizki           | 28 June 2019      |
| Drug Procurement Reaches Rp7.3 Trillion Over Eight Years <a href="https://ekonomi.bisnis.com/read/20190227/12/893820/pengadaan-obat-capai-rp73-triliun-dalam-8-tahun">https://ekonomi.bisnis.com/read/20190227/12/893820/pengadaan-obat-capai-rp73-triliun-dalam-8-tahun</a>                                                                    | Yanita Petriella                | 27 February 2019  |
| ICW Finds Potential Procurement Fraud in Three State Institutions <a href="https://kbr.id/articles/indeks/icw_temukan_potensi_kecurangan_pengadaan_barang_dan_jasa_di_3_lembaga_negara">https://kbr.id/articles/indeks/icw_temukan_potensi_kecurangan_pengadaan_barang_dan_jasa_di_3_lembaga_negara</a>                                         | Gilang Ramadhan                 | 22 May 2017       |
| These Procurement Loopholes Could Enable Corruption <a href="https://nasional.kompas.com/read/2017/09/28/19204361/ini-celah-kecurangan-pengadaan-barang-dan-jasa-yang-berpotensi-korupsi?page=all">https://nasional.kompas.com/read/2017/09/28/19204361/ini-celah-kecurangan-pengadaan-barang-dan-jasa-yang-berpotensi-korupsi?page=all</a>     | Ambaranie Nadia Kemala Movanita | 28 September 2017 |
| ICW: 10 Education Ministry Projects Potentially Contain Elements of Corruption <a href="https://www.beritasatu.com/news/381561/icw-10-proyek-kemdikbud-berpotensi-mengandung-unsur-korupsi">https://www.beritasatu.com/news/381561/icw-10-proyek-kemdikbud-berpotensi-mengandung-unsur-korupsi</a>                                              | Maria Fatima Bona               | 24 August 2016    |
| ICW Releases List of 10 Regions in North Sulawesi with Potential for Fraud <a href="https://manado.tribunnews.com/2017/09/14/icw-release-10-daerah-di-sulut-berpotensi-kecurangan">https://manado.tribunnews.com/2017/09/14/icw-release-10-daerah-di-sulut-berpotensi-kecurangan</a>                                                            | Handhika Dawangi                | 14 September 2017 |
| Stadium Lamp Priced at Rp20 Million Listed as Rp27.66 Million <a href="https://www.tribunnews.com/nasional/2014/01/08/icw-satu-lampu-stadion-rp-20-juta-ditulis-rp-2766-juta">https://www.tribunnews.com/nasional/2014/01/08/icw-satu-lampu-stadion-rp-20-juta-ditulis-rp-2766-juta</a>                                                         | Hasiolan Eko P Gultom           | 8 January 2014    |
| Collusion Suspected in Executive Bus Tender <a href="https://sulutdaily.com/main-mata-tender-bus-eksekutif/">https://sulutdaily.com/main-mata-tender-bus-eksekutif/</a><br>(Fellowship Jurnalis Opentender Program)                                                                                                                             | Jeane Rondonuwu                 | 31 July 2017      |
| Livestock Procurement Aid in Jeneponto Misses Target Beneficiaries <a href="https://antikorupsi.org/id/news/jauh-sasaran-sapi-bantuan">https://antikorupsi.org/id/news/jauh-sasaran-sapi-bantuan</a><br>(Fellowship Jurnalis Opentender Program)                                                                                                | Aqilah Nurul Khaerani Latif     | 28 September 2017 |
| Opacity Surrounds Hand Tractor Assistance <a href="https://antikorupsi.org/id/article/gelap-bantuan-traktor-tangan">https://antikorupsi.org/id/article/gelap-bantuan-traktor-tangan</a><br>(Fellowship Jurnalis Opentender Program)                                                                                                             | Muhammad Yunus                  | 29 September 2017 |

Source: Processed Data

The attempt to access Opentender via the Android application reveals numerous deficiencies attributable to its beta state, as well as a large number of errors (programmatic errors). The data cannot be aggregated and is limited to the top 10 entries for each region; furthermore, data retrieval is restricted to the years 2014 to 2017. The names of cities and regencies across various provinces are frequently mixed up and do not align with the Minister of Home Affairs Regulation No. 137 of 2017 on the Codes and Data of Government Administrative Regions.

The data indicates that ICW has not yet succeeded in empowering and motivating the community to utilize Opentender data for monitoring purposes. Opentender offers convenient access, although many individuals remain oblivious to its existence and fail to exploit the data available on the platform. Consequently, it may be inferred that Opentender has not yet succeeded in empowering the community.

## 5. CONCLUSION

According to axiomatic analysis in this paper, three key axioms related to the interaction between Opentender and corruption prevention can be established as follows: (1) data openness is indispensable yet insufficient axiom for corruption prevention; (2) the efficiency of open data tools relies on the availability of timely and clear information and sufficient user capabilities; and (3) user empowerment is a prerequisite for transforming data transparency into anti-corruption actions. This set of axioms confirms previous empirical evidence showing that, despite increased transparency due to e-procurement systems, corruption still occurs in government tenders since current systems have failed to detect fraud and possible cases of corruption. On a theoretical level, the contributions of this research add to the literature on open government by proving that the axiomatic method created initially to measure poverty and inequality can be applied successfully in assessing the performance

of anti-corruption tools.

We recommend that policymakers consider creating robust laws to guarantee that all procurement agencies engage in electronic procurement via LPSE. Further, integration of Opentender into the existing anti-corruption institutional frameworks such as the Corruption Eradication Commission (KPK) is needed to improve the platform's deterrent effect and make sure transparency turns into accountability.

The researcher also advises that ICW concentrate on initiatives for community empowerment. The promotional and socializing initiatives for Opentender might be diversified, for instance: Conducting the Opentender Datathon, a competition focused on data analysis and visualization of Opentender data. The Datathon serves not only as a competition but also offers the public information on utilizing data from Opentender. The outcomes of data visualization in the Datathon program can be disseminated on social media as infographics, enhancing the aesthetic appeal of the data. Expanding partnerships with other universities to execute thematic Student Community Service Programs utilizing Opentender data as the foundation for research initiatives. This thematic Student Community Service Program invites students to examine government packages deemed potentially corrupt. The findings of the students' research can provide publications content regarding the application of Opentender data. Hence, students, as catalysts for change, assist Opentender in promoting its platform to oversee e-procurement via their publications.

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**Appendix 1. Criteria in the Potential Fraud Analysis (PFA) Used in Opentender**

| No. | Criteria                                                  | Weighting Criteria                                                                                                                                                                                  | Key Considerations During Monitoring                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-----|-----------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | Contract Value                                            | 1 = Contract Value > 200 Millions<br>2 = Contract Value 201-500 Millions<br>3 = Contract Value 501 Millions - 1 Billions<br>4 = Contract Value 1,01 - 5 Billions<br>5 = Contract Value > 5 Billions | <p>The value of procurement or large contracts attracts tender participants. This is due to large contracts, particularly those approaching the ceiling or maximum limit, offer substantial earnings. The greater value of the deal may thereafter be compromised. Consequently, it is essential to oversee initiatives with large contract values.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| 2   | The number of tender participants who submitted proposals | 1 = Number of Participants > 5<br>2 = Number of Participants 5<br>3 = Number of Participants 4<br>4 = Number of Participants 3<br>5 = Number of Participants < 3                                    | <p>The electronic procurement method indirectly eradicates the monopoly of tender participants. A limited number of bidders for a tender suggests that it might be monopolized by participants from a single region or by the same entities who participated in previous tenders or in the prior year. The monopoly on tender awards must be scrutinized as it may constitute corruption.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 3   | Contract value compared to self-calculated value (Saving) | 5 = Saving > 95,01%<br>4 = Saving 90,01% - 95 %<br>3 = Saving 85,01% - 90%<br>2 = Saving 80,01% - 85%<br>1 = Saving < 80%                                                                           | <p>Public Procurement, both electronic and non-electronic, requires an understanding of the budgetary aspect.</p> <p>First, there are three different values: the value based on the budget, the value based on the self-estimated value, and the contract value.</p> <p>The budget ceiling value refers to the amount designated for paying central government expenditures and/or budgetary needs within the state budget (APBN).</p> <p>The Self-Estimated Value, henceforth referred to as HPS, is the projected price of goods/services established by the PPK.</p> <p>The contract value represents a value mutually accepted by the stakeholders and the organization coordinating the tender process.</p> <p>It should be noted that the contract value cannot exceed the self-estimated value, and the self-estimated value cannot exceed the budget ceiling value. The budget ceiling value indicates the maximum amount allowed for procurement; consequently, the self-estimated value must be less than the budget ceiling value. If the contract value exceeds both the self-estimated value and the budget ceiling value, it raises doubts due to the potential for corruption.</p> |

| No. | Criteria                 | Weighting Criteria                                                                                                                                                                                              | Key Considerations During Monitoring                                                                                                                                                                                                                                                                                                                |
|-----|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 4   | Construction work period | Q1 (Tender in January -March) = 0<br>Q2 (Tender April- June ) = 0<br>Q3 (Tender in July -September ) = 0<br>Q4 (Tender in October – December)<br>= 1<br>Note: This only applies to tender of construction work. | The APBD cycle is administered annually, lasting from January 1 to December 31. In the case of a construction project with a large contract value signed in the fourth quarter (October-December) of the current year, there is a high probability that the project's execution will be inefficient due to the end of the budget cycle in December. |
| 5   | Repeated Winner          | 1 = 2 times<br>2 = 3 times<br>3 = 4 times<br>4 = 5 times                                                                                                                                                        | A repeated winner in a tender requires close inspection. While the tender participants may have performed excellently on each contract, their repeated winning might indicate monopolistic practices.                                                                                                                                               |

Source: Processed Data