IT Governance Implementation In Indonesia: A Systematic Literature Review

Fredy Jingga, Raymond Kosala, Benny Ranti, Suhono Harso Supangkat

Abstract: IT Governance or known as ITG is widely adopted by company in Indonesia. Because it’s widely adopted without any rules, resulting in no standardization that a company should follow. This article discuss about the framework that most favourite used by ITG Research, and the approach that the implementation is used. 202 articles found and exclusion criteria are applied in order to get a better search result. Because of exclusion criteria applied, 163 are left categorized as studies found. After a careful review on the articles’ title and abstract, 53 studies are selected as candidate studies. From 53 articles that categorized as candidates studies, only 25 articles that are suitable as selected studies. While in the result Control Objectives for Information and Related Technology (COBIT) are the most favourite framework used in IT Governance Implementation Studies in Indonesia. And the Audit/Evaluation approach are the most used in the articles.

Index Terms: IT Governance, Implementation, Indonesia, Systematic Literature Review, SLR, COBIT

1 INTRODUCTION
IT Governance or known as ITG, is widely adopted by companies in Indonesia. Tjong, Adi, et all explained in their research [1], the most impactful benefit in IT Governance Implementation are the improvement of alignment between IT and Business .

Veronica, and Suryawan explained in [2], One of the important aspects of the information systems building process is to provide good IT service to the users. Ensuring that quality service is provided, it will satisfy the user. satisfying the user meaning that IT in the company should be run and manages smoothly, therefore ITG is needed.

There are many frameworks adopted and resulting no standardization of the IT Governance framework adopted by companies in Indonesia. Seeing the phenomenon of high adoption of IT Governance framework in Indonesia, there is a desire from researchers to conduct a literature review in answering several research questions. Therefore The research questions are “What are the most favorite IT Governance framework used in Indonesia?”, and “What kind of approach that usually used in IT Governance Framework Implementation?”. To answer the research question, researcher try to do literature review and search on certain databases.

2 IT GOVERNANCE
IT Governance is not talking about how a company manages it IT. Therefore, Weill and Ross write in his book [3], IT Governance reflects broader corporate governance principles while focusing on the management and use of IT to achieve corporate performance goals.

Weill and Ross also show that IT are one of the six key assets in corporate governance [3]. Fig.1. show relation between IT Governance and Corporate Governance.
3 METHODOLOGY
Methodology used in this review are the systematic literature review that also used by Jingga F in [5] namely:

1. Planning the review
   1.1 Selecting the database.
   1.2 Determining the keyword used.
   1.3 Determining exclusion and inclusion criteria.
2. Conduct the Review
   2.1 Extracting and analyzing the found literatures to answer the research question.
   2.2 Synthesis the data to answer the question.

3.1 Planning the review
Researcher decided to use only one database; scopus.com. Scopus.com are used because Scopus are the largest abstract and citation database for peer-reviewed literatures: scientific books, journals and conference proceedings.

After selecting the database, Search keywords are also determined. Filtering done by using the Boolean operators “AND”. Resulting the following keywords:

“ALL ("IT Governance" AND “implementation” AND “Indonesia”)”

202 articles are found while searching using the All fields. With the 202 articles, researcher try to apply the exclusion criteria there are:
- Publication year before 2015
- Article that not written in English languages

While applying the exclusion criterion, only 163 articles left categorized as the studies found.

3.2 Conduct the review
Initial Phased done with the result of 163 articles extracted from Scopus.com database categorized as studies found. From the 163 Articles found, researcher try to read the title, to find the literature that relevance with Indonesia’s Company IT Governance Implementation. After carefully read the title, 53 studies are selected and categorized as candidate studies.

From the candidate studies category articles, researcher try to read the title, abstract and exclude article that do not related to Indonesia Company’s IT Governance Implementation and also excluding the article that not describing the implementation of IT Governance Framework that used in Indonesia Based Company. From 53 articles of candidate studies, researcher filtered to 25 articles that met the researcher criteria that categorized as selected studies.

4 RESULT AND DISCUSSION
From the 25 Articles that categorized as selected studies, articles are carefully read and summarized as shown on Table 1.

<table>
<thead>
<tr>
<th>Title</th>
<th>Author</th>
<th>Publication Year</th>
<th>Publication Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adopted COBIT-5 Framework for Indonesia's Company IT Governance Implementation</td>
<td>Putra, I N; Hakim, A; Pramono, S H; Tolle, H</td>
<td>2017</td>
<td>J</td>
</tr>
<tr>
<td>An Integrative Framework of CO</td>
<td>Wahab, I H A; Arief, A</td>
<td>2015</td>
<td>C</td>
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<tr>
<td>Analysis of investment IT plan</td>
<td>Fachri Pane, S; Awangga, R M; Nuraini, R; Fathionah, S</td>
<td>2018</td>
<td>C</td>
</tr>
<tr>
<td>Applying COBIT 5 in Higher Education</td>
<td>Gunawan, W; Kalensun, E P; Fajar, A N; Sfenrianto</td>
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<td>Audit of Information Technology</td>
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<tr>
<td>Designing IT blue print academy</td>
<td>Holilah; Girsang, A S; Saraghi, M H</td>
<td>2019</td>
<td>J</td>
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<td>Fitroh; Siregar, S; Rustamaji, E</td>
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</tr>
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<td>2018</td>
<td>C</td>
</tr>
<tr>
<td>Evaluation of ISO 27001 Implementation</td>
<td>Fajar, A N; Christian, H; Girsang, A S</td>
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</tr>
<tr>
<td>Evaluation Of IT Project Management</td>
<td>Rooswati, R; Legowo, N</td>
<td>2018</td>
<td>C</td>
</tr>
</tbody>
</table>
From the summarize of the selected studies shows that the awareness of Indonesia company getting bigger. The publication year of 2015 show only 2 (two) articles, followed by 2016 published 2 (two) articles, and 2017 had 7 (seven) literatures. 2018 are the highest with 9 (nine) articles, and 2019 by 3 (three) articles. Most of the articles are conference proceedings. It shown on the summary table that 21 out of 25 selected studies are from conference proceedings publication type. 4 out of 25 selected studies are from journal publication.

To answer the research question and to get a detail understanding on the selected articles, researcher try to find the IT Governance framework that used in the selected articles categories. Beside knowing the type of IT Governance Framework used in the articles, researcher also looking for the approach that author used in explaining or implementing the IT Governance Framework. Researcher categorized the approach to two different categorized namely:

- **Proposed Model**
  Proposed model selected as the approach if the articles explains more on the plans in implementing the IT Governance Framework.

- **Audit/ Evaluation Model**
  Audit/ Evaluation Model are selected as the approach if the articles/ literature explains more on the result achieved, capability maturity matrix, more on the evaluation and audit results.

The summary of the IT Governance framework and Approach used could be seen on Table 2.

### Table 2: Summary of IT Governance Framework & Approach Used in the Selected Articles.

<table>
<thead>
<tr>
<th>Title</th>
<th>Author</th>
<th>IT Governance Framework</th>
<th>Approach Type</th>
</tr>
</thead>
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<tr>
<td>Applied COBIT-5 Framework for IT Governance</td>
<td>Putra, I N; Hakim, A; Pramono, S H; Tolle, H</td>
<td>COBIT 5</td>
<td>Audit / Evaluation Model</td>
</tr>
<tr>
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<td>COBIT 5</td>
<td>Audit / Evaluation Model</td>
</tr>
</tbody>
</table>

J = Journal Publication Type; C = Conference Proceeding Publication Type.
From the summary of the IT Governance used in the selected articles, show the most favorites framework are the Control Objectives for Information and Related Technology (COBIT). 22 out of 25 selected articles are using COBIT. It could be COBIT 5 or COBIT 4 and also combination of COBIT and others IT Governance Framework.

COBIT have been know widely in Indonesia based company. According to Wahab and Arief [7] COBIT can be used to support in applying policy standards as well as the basic framework in decision to use of information technology governance in government institutions. There are five principles known in COBIT 5 [6], [7] namely in Fig. 3.

When answering the second research question, what are the most favourites approach that are used in IT Governance Implementation, 17 out of 25 are using the Audit/ Evaluation Model. It explain the benefit of using the IT Governance framework and showing the capability maturity matrix. The recommendation also provided inside the literature to become the lesson learned for the readers. 8 out of 25 literatures are showing the proposed model that will be used in Indonesian company without showing the Maturity level or recommendation.

4 CONCLUSIONS

From the keyword search at the scopus.com database, 202 articles are found. Specific exclusion criteria are applied and leaving 163 articles categorized as studies found. Carefully reading the titles, 53 articles are left in the candidate studies category, while after careful reading, 25 articles are selected for discussion.

Most favourite IT Governance used are the Control Objectives for Information and Related Technology (COBIT). And the most used approached are the Audit / Evaluation model.

The studies found each publication year show that the awareness of IT Governance implementation in Indonesia are getting bigger each year.

5 LIMITATION & FUTURE RESEARCH

There are still area need to be improved in this study such as, the capability of maturity level of each studies could be bring to show the readiness or the level of IT Governance Implementation in Indonesia. For future research, researcher are suggesting in finding the factors that influenced the implementation of IT Governance.

Beside the factors that influenced the implementations, company category also need to be consider. A different company category will be affecting on different It Strategy and IT Standardization that being followed by the studies. Future research also need to consider different database that used in searching the studies.
ACKNOWLEDGMENT

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REFERENCES


