

Campus Sustainability Assessment: Case Studies from Universitas Negeri Semarang and Universitas Diponegoro, Indonesia

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Abstract. The demand to evolve from Financial Reporting (FR) to Sustainability Reporting (SR) is considered as evolution of company financial reporting include the campus. This research aims are to verify the adherence between the condition at Universitas Negeri Semarang (Unnes) as a conservation university and Universitas Diponegoro (UNDIP) as a research university and the framework for achieving campus sustainability proposed by Fonseca. A comparative study was made between them. A case study is conducted through observation and document collection on campus website and their formal reporting documents. It can be concluded that both of them are partially adherence with the framework at the time this research was performed. They use different channels and forms to report sustainability. There is a significant difference between them and Unnes as a conservation university has a better level of readiness. Several recommendations are proposed to the university to be more sustainable.

Keywords: Assessment, Sustainability, Universitas Negeri Semarang (UNNES), Universitas Diponegoro (UNDIP)

1. Introduction

Globalization has demanded financial reporting to include broader stakeholders. Based on the conceptual framework of SAK 2015 (revised 2016), the purpose of financial reporting is to provide financial information regarding the reporter entity that is useful for current investors and potential investors, lenders, and other creditors in making decisions about resource provision to the entity. In the current era of globalization, it has demanded a change in the function of financial reporting so that it includes broader stakeholders not only focusing on investors and creditors. Financial Reporting has evolved sequentially as follows Financial Reporting (FR), Management Reporting (MR), Green Reporting (GR), Sustainability Reporting (SR), and Integrated Reporting (IR). Sustainability Reporting (SR) can help organizations to set goals, measure performance, and manage change in order to make their operations more sustainable. Sustainability report presents disclosures about the impact of the organization, whether positive or negative on the environment, society, and economy. Most sustainability reporting uses the Global Reporting Initiatives (GRI) standards (Andersson et al., 2005); (Gómezgutiérrez et al., 2017).

Stakeholder theory is a theory that describes which parties the company is responsible for (Freeman, 2010). In this case, the sustainability report as a communication media for the delivery of entities information, including universities to stakeholders to reduce information asymmetry between them. The more information that is presented by a university and the disclosure of the information is in accordance with the indicators on sustainability reporting standards, it can be interpreted that the university has tried its best to fulfil the rights of university stakeholders. University is an educational unit that organizes higher education, has a vision in the form of Three Pillars of Higher Education consisting of 3 elements that is organizing education, research and community service makes the universities contribute to the economic, social, and environmental factors in which they operate. This is in line with the concepts in the sustainability report. As an entity, universities basically have the same interests as business entities because universities try to survive to be known by the community and the choice to take education (Rofelawaty, 2014). (Ryan et al., 2010) stated that universities throughout the world are preparing to carry out sustainable practices efficiently in order to produce useful learning and contribute locally and regionally as a goal of conducting sustainable. In the 1980s, only a few universities considered the concept of sustainability as relevant to their

activities, but currently many universities throughout the world consider the concept of sustainability is relevant and even core in their activities (Lozano, 2011). This cannot be denied because universities are the industry and part of society that makes environmental damage from energy and material consumption (Viebahn, 2002). Sustainability reporting is one of the tools that can be used to assess how effective universities contribute to sustainability. Sustainability reporting by universities aims to communicate the mission and value of the universities, operational activities and performance related to sustainability issues that cannot be met by traditional reporting by universities which only focus on research projects, publications, patents, graduates, curriculum and financial information (Garde-Sánchez et al., 2013).

At present, sustainability reporting has been widely applied by business entities. However, issues related to sustainability reports have not been responded well by educational entities, especially universities. For example, in 2018, there were 66 universities in Indonesia that had been registered at UI Green Metric World University Rank in other words only 66 universities showed sustainability performance, but none of these universities published their sustainability performance in sustainability reporting. This is gap phenomena which is the basis of this research. In addition to the gap phenomenon above, there is a fundamental literature gap in this study. Several studies related to sustainability reporting have been carried out in various countries, such as Ryan et al (2010) in Asia Pacific; (Sordo et al., 2016) in Italy; (Fonseca et al., 2011) in Canada; (Beringer et al., 2008) in Atlantic Canada, (Ceulemans et al., 2015) using the GRI Database 2013-2014; (Vagnoni & Cavicchi, 2015) in Italy, (Chatelain-Ponroy & Morin-Delerm, 2016) in France; (Dagilienė & Mykolaitienė, 2016) in Lithuania; and (Gómezgutiérrez et al., 2017) in Canada. Meanwhile, in Indonesia, there have not been many studies related to sustainability reporting at universities because the implementation of Sustainability Reporting has not been responded well by universities in Indonesia. Several previous studies in Indonesia related to sustainability reporting in Indonesia were conducted by (Yasbie & Barokah, 2018); (Rofelawaty, 2014); (Mutia, 2017) and (Sari et al., 2020).

Universitas Negeri Semarang (Unnes) was officially declared as a Conservation University on March 12, 2010. This means that in the implementation of education, research, and community service, Unnes must have a concept that refers to the principles of conservation (protection, preservation, and sustainable use) both conservation of natural, artistic, and cultural resources. The conservation has seven (7) pillars namely biodiversity, clean energy, green buildings & internal transportation, non-paper/efficiency, waste treatment, ethics, arts and culture, and conservation cadres and includes 8 conservation values, namely Inspiring, Humanist, Caring, Innovative, Creative, Sportive, Honest and Fair. These pillars and conservation values are not only used as icons, but also are expected to be implemented by all elements without exception. As a form of accountability for the sustainability of universities, sustainability report is an appropriate tool to respond to the current demand of university stakeholders in Indonesia. In this study, a comparison will be made between Universitas Negeri Semarang (Unnes) as a Conservation University with Universitas Diponegoro (Undip) as a Research University. Both of them have locations in Semarang City, Central Java Province.

Based on the phenomena gap and the literature gap above, the objectives in this study are divided into three, which are first, understanding the sustainability reporting practices for universities in Indonesia (Unnes & Undip) by identifying the report channels used. Second, analysing the level of readiness for university disclosure (Unnes & Undip) related to sustainability reporting by analysing the suitability level of financial reporting with GRI G4 indicators and campus sustainability assessment tools. Third; examining the difference between the sustainability reporting of two universities in Indonesia (Unnes & Undip) related to sustainability information. Based on some of the previous studies mentioned above, this study refers to the research of (Fonseca et al., 2011).

To answer the third research question this is related to different contexts. Both of these universities (Unnes & Undip) under the ministry of higher education which are required to comply with applicable regulations. Therefore, the most important stakeholder is the ministry of higher education. With different contexts and orientations, university orientation is very important in report disclosure. Unnes as a conservation university discloses many aspects of sustainability, as is a university orientation to become a conservation university. On the contrary, Undip as a research university is more oriented to the results of research and scientific publications.

H1: There is a significant difference between Sustainability Reporting at Universitas Negeri Semarang and Universitas Diponegoro.

2. Research Method

The type of research was a descriptive study with data collection technique in the form of document observation. The data collected was secondary data in the forms of report documents and data available to the public on the website of universities from the two universities as the samples of this study. This is done because there is no uniformity of sustainability reports of universities.

The population of this study was the State Universities in Indonesia registered at the Ministry of Research Technology and Higher Education in 2019 of 85 universities. The research sample as well as the object of research in this study was two State Universities located in Semarang City, Central Java Province namely Universitas Negeri Semarang (Unnes) & Universitas Diponegoro (Undip). If Unnes as a Conservation University and Undip as a research university are not ready for sustainability reporting, there is the possibility that other institution have the same relative characteristics, as well as not being ready to do sustainability reporting. In this study, a comparative analysis would be conducted between Unnes and Undip to determine the best model design of Sustainability Reporting in educational institutions, especially Higher Education in Indonesia.

This researcher used the GRI G4 guidelines for two reasons. First, GRI (Global Reporting Initiative) is the first sustainability reporting standard and most widely adopted in the world. Second, some guidelines such as GRI include implementation methods for implementing guidelines and standardizing information for organizations that make sustainability reports(Chatelain-Ponroy & Morin-Delerm, 2016). However, there are limitations of the GRI guidelines, which do not include indicators that are relevant to universities in the form of sustainability in research, eco-friendly buildings, canteens and other issues(Fonseca et al., 2011). Consequently, the researchers added the campus sustainability assessment tool adopted from the research of(Fonseca et al., 2011). The following Table1 presents 53 GRI G4 indicators and 20 Campus Sustainability Assessment Tool indicators, so there are 73 indicators used in this study.

The General Disclosure Standards category consists of 7 indicators that is Strategy and Analysis, Organizational Profile, Material Aspects and Limitation, Stakeholder Engagement, Report Profiles, Governance, Ethics and Integrity. **The Specific Disclosure Standards** category consists of 6 subcategories namely Economy, Environment, Labour Practices and Work Comfort, Human Rights, Society and Product Responsibility. **Economy** has 4 indicators, which are Economic Performance, Market Presence, Indirect Economic Impacts, and Procurement Practices. **Environment** has 12 indicators which are Materials, Energy, Water, Biodiversity, Emissions, Effluents and Waste, Products and Services, Compliance, Transportation, Others, Stakeholder Assessment of the Environment, Complaints Mechanism for Environmental Problems. **Labour Practices and Work Comfort** has 8 indicators which are Employment, Management/Labour Relations, Occupational Health and Safety, Training and Education, Diversity and Opportunities of Equality, Remuneration Equality between Genders, Stakeholder Assessment on Labour Practices, and Mechanisms Complaints on Employment Issues. **Human Rights** has 10 indicators which are Investment, Non-discrimination, Freedom of association, underage labour, Forced labour, Security Practices, Customary Rights, Assessments, Stakeholder assessments of Human Rights practices, Complaints Mechanisms for Human Rights Problems. **Society** has 7 indicators which are Local Society, Anti-corruption, Public Policy, Anti-Competition Behaviour, Compliance, Supplier Assessment of Impacts on Society, and Complaints Mechanisms on Impacts on society; **Product Responsibility** has 5 indicators which are Customer Health and Safety, Product and Service Labelling, Marketing Communication, Customer Privacy, and Compliance. The disclosure related to 5 indicators is needed by the public for the sustainability of universities.

The Category of Campus Sustainability Assessment Tools consists of 3 subcategories which are **Research, Curriculum and Teaching, Eco-friendly Buildings and Procurement**. **Research** has 7 indicators namely Research policies related to sustainability, Research centres/laboratories related to sustainability, Research programs related to sustainability, Incentives for sustainability research, Funding and assistance for sustainability research, Academic production related to sustainability, and Academic projects related to sustainability. **Curriculum and Teaching** has 7 indicators namely Curriculum policies related to sustainability, Lectures related to sustainability, Students taking

lectures related to sustainability, Assessment of sustainability literacy, Educational programs related to sustainability, Non-curricular incentives related to sustainability, and Scholarships for education related to sustainability. **Eco-friendly Buildings and Procurement** has 6 indicators namely Eco-friendly Building and Renovations, Green Open Space, Canteen, Paper Recycling, Eco-friendly Devices, and Eco-friendly Furniture. The disclosure related to 6 indicators is needed by the public for the sustainability of universities.

Table 1. Indicators of GRI G4 and campus sustainability assessment tools

Categories		Total Indicators
1	General Disclosure Standard	7
2	Specific Disclosure Standard	
2.1	Economy	4
2.2	Environment	12
2.3	Labour Practices and Work Comfort	8
2.4	Human Rights	10
2.5	Society	7
2.6	Product Responsibility	5
3	Campus Sustainability Assessment Tool	
3.1	Research	7
3.2	Curriculum and Teaching	7
3.3	Eco-friendly building and procurement	6
Total Indicators		73

Source: GRI G4 Sustainability Reporting Guidelines & Fonseca et al (2011)

The data analysis technique used in assessing the readiness level of university in producing the sustainability report is content analysis. Content analysis is a research method that provides a systematic and objective way to make valid conclusions from verbal, visual, or written data with the aim of describing and quantifying specific phenomena. Content analysis qualitatively includes four stages, namely planning (goal setting and determinant of sample and analysis), data collection, data analysis (de-contextualisation, re-contextualisation, categorisation and compilation), reporting and presentation, which are elaborated as follows (Bengtsson, 2016).

3. Results and Discussions

To answer the **first research question** is the results of the analysis on the disclosure of information related to Sustainability Reporting at the two universities still experience a variety of forms of tools used. Unnes presents publishing Financial Reports, Annual Chancellors' Reports, and University Performance Reports and has a university website which all can be accessed by the public, especially Unnes stakeholders. In this case, the majority of information related to sustainability is contained in the Unnes performance report. Meanwhile, Undip only publishes Financial Statements, University Strategic Plan 2015-2019 and has a university website. In this study, the researchers use the University Performance Report as an Unnes document and used the University Strategic Plan 2015-2019 as an Undip document. The results can be seen in table 2. Regarding Sustainability Reporting, information disclosure tools through the website have limited access to the public, in this case especially stakeholders. This is due to the information disclosed on the website only reveals information that is relevant to the General Disclosure Standard which consist of organizational profiles, study programs, research, university projects, governance and ethics and integrity.

Table 2. Channel of Sustainability Reporting

No	Universities	Reporting Channel	Sustainability Reporting (%)	Grade	Meaning
1	Universitas Negeri Semarang	Performance Reports	77%	A	Excellent
2	Universitas Diponegoro	Strategic Plans	45%	B	Good

Source: Secondary data analysis 2019

To answer **thesecond research question**, namely the readiness level of Unnes and Undip in adopting the GRI G4 instrument and the Campus Sustainability Assessors then when viewed from the three categories, the General Disclosure Standard category is the most widely obeyed by Unnes 7 of 7 indicators and Undip 6 of 7 indicators. The next category is Specific Disclosure Standard, Unnes discloses 30 of 46 indicators and Undip discloses 20 of 46 indicators. The last one which is Campus Sustainability Assessment Tool, Unnes discloses 19 of 20 indicators and Undip discloses 7 of 20 indicators. These indicators are more easily obeyed by both universities as research objects because the main activity of a university is Research and Curriculum & Teaching. The results can be seen in table 3.

The General Disclosure Standard category consists of 7 indicators that are Strategy and Analysis, Organizational Profile, Material Aspects and Limitation, Stakeholder Engagement, Report Profiles, Governance, Ethics and Integrity. The disclosure of information related to these 7 indicators is highly needed by the public regarding the sustainability of universities. The General Disclosure Standard category is the most widely obeyed by Unnes 7 of 7 indicators (10%) and Undip 6 of 7 indicators (9%). Information related to ethical & sustainability integrity aspect is needed by the public to find out how ethic and how much universities is committed to sustainability.

The Specific Disclosure Standard category consists of 6 subcategories namely Economy (4 indicators), Environment (12 indicators), Labour Practices and Work Comfort (8 indicators), and Human Rights (10 indicators), Society (7 indicators) & Product Responsibility (5 indicators). The disclosure of information related to 46 indicators on the Special Disclosure Standards is needed by the public related to the sustainability of universities. Unnes discloses 30 indicators from 46 total Special Disclosure Standard indicators (40%) in the University Performance Report. The subcategory that Unnes has most disclosed is economic (4 of 4 indicators) and the lowest disclosure is human rights (5 of 10 indicators). Meanwhile, Undip discloses 20 indicators (26%) in the Undip Strategic Plans. The subcategory that is mostly disclosed by Undip is Economy (3 of 4 indicators) and the lowest are Environment (3 of 12 indicators) and Human Rights (3 of 10 indicators).

The Category of Campus Sustainability Assessment Tools consists of 3 subcategories namely Research (7 indicators), Curriculum and Teaching (7 indicators) & Eco-friendly Buildings and Procurement (6 indicators). The disclosure of information related to 20 indicators of the Campus Sustainability Assessment Tool is needed by the public related to the sustainability of universities. Unnes discloses 19 indicators (27%) in the University Performance Report on General Disclosure Standards and Undip only discloses 7 indicators (10%). This striking difference is likely related to university orientation. Unnes is oriented to 'green university' or conservation so that the report communicated is always related to sustainability. While Undip is more oriented as a research university and world ranking so most of the disclosures in the report are more concerned with research performance and internationalization. The result again shows that university orientation is very important in report disclosure. Unnes discloses many aspects of sustainability as a university orientation to become a conservation university. Instead, Undip is more oriented as a research university and ignores disclosures related to procurement and eco-friendly buildings.

Table 3. Results of Research Instrument Analysis

Categories		Total Indicators	Unnes		Undip	
			Indicator s	%	Indicators	%
1	General Disclosure Standard	7	7	10%	6	9%
2	Specific Disclosure Standard	46	30	40%	20	26%
2.1	Economy	4	4	5%	3	4%
2.2	Environment	12	9	12%	3	4%
2.3	Labour Practices and Work Comfort	8	5	7%	4	5%
2.4	Human Rights	10	5	7%	3	4%
2.5	Society	7	4	5%	4	5%
2.6	Product Responsibility	5	3	4%	3	4%
3	Campus Sustainability Assessment Tools	20	19	27%	7	10%
3.1	Research	7	7	10%	6	8%
3.2	Curriculum and Teaching	7	7	10%	0	0%
3.3	Eco-friendly building and procurement	6	5	7%	1	2%
Total Indicators		73	56	77%	33	45%

Source: Secondary data analysis 2019

To answer **the third research question**, which is concerning the analysis result of both universities, it shows the use of the GRI guidelines and Campus Sustainability Assessment Tools intensively needs to be socialized at Higher Education Institutions in Indonesia and regulations related to Sustainability Reporting in Higher Education need to be issued. Overall, of the 73 indicators, Unnes discloses 56 indicators in the University Performance Report and Undip discloses 33 indicators in the Undip Strategic Plan Report. Sustainability Reporting Based on table 4, it can be seen the results of the Mann Whitney Test. To determine whether to use parametric or non-parametric tests, it is necessary to conduct a data normality test. Because the data used are only two universities, it uses the Shapiro Wilk Test which shows the results that the data are not normally distributed ($0.000 < 0.005$). Thus, it is used a non-parametric analysis tool (Mann Whitney Test) to test the differences between the two samples and found that there are significant differences between them related to Sustainability Reporting. From these result, it can be interpreted that Unnes is quite good in responding to Sustainability Reporting and has a better level of readiness compared to Undip in relation to the suitability of Sustainability Reporting disclosures. In other words, Unnes has tried its best to fulfil the rights of university stakeholders. However, several subcategories, especially Human Rights, Society, and Product Responsibility have not been well reported by Unnes as a Conservation University. In this case, it can be concluded that the results of this study support the Stakeholder Theory.

Table 4. Mann Whitney Test Sustainability reporting and performance

Test	Statistics	Category	Result	Meaning
Normality	Shapiro Wilk Test	Universitas Diponegoro	Sig 0.000	Abnormal
		Universitas Negeri Semarang	Sig. 0.000	Abnormal
Sustainability Reporting	Mann Whitney	Universitas Diponegoro	Sig. 0.000	Significant Differences
		Universitas Negeri Semarang		

Source: The Processed Secondary Data (2019)

4. Conclusion and Limitation

Conclusion

Some conclusions from this study are as follows:

1. There is no uniformity in the form of sustainability reports on Unnes and Undip. Unnes uses the University Performance Report and Undip uses the Undip Strategic Plan Report. This is due to the absence of regulations related to Sustainability Reporting for University. These two universities are also universities under the Ministry of Higher Education, so that although the disclosures are different, the format of the two reports is relatively the same.
2. Based on the analysis of the report, Universitas Negeri Semarang (Unnes) has a better level of readiness for the implementation of Sustainability Reporting than Universitas Diponegoro. This is indicated by the level of conformity of Unnes disclosure with indicators as much as 77% (Excellent/A), Undip as much as 45% (Good/B). The orientation of the university in this case determines the content of the disclosure. Unnes which is 'Green' or conservation oriented has a sustainability perspective in its report. Meanwhile, Undip, which is oriented as a research university, is more focused on research achievements and tends to ignore reports related to sustainability.
3. The Indicators of General Disclosure Standards are the most complete indicators disclosed by the universities concerning profiles, strategies, and policies. This can be interpreted that the universities present general reports and fulfil obligations to regulators. The indicators in this study have been partly carried out by the universities, but the Sustainability Reporting instrument available at GRI G4 which is designed for business entities may not be suitable for universities. While the Campus Sustainability Assessment Tool indicators have not yet been considered a priority at Indonesian university.
4. The sub categories most frequently disclosed by Unnes are Economics 4 of 4 indicators), Research (7 of 7 indicators) and Curriculum & Teaching (7 of 7 indicators). Meanwhile, the subcategories that are least disclosed by Unnes are Human Rights (5 of 10 indicators), Society (4 of 7 indicators) and Product Responsibility (3 of 5 indicators). While Undip makes the most disclosures in the Research (6 of 7 indicators) and Society (4 of 7 indicators) sub-categories. While only a few disclosures related to the Curriculum and Teaching (0 of 7) and Green Buildings and Procurement (1 of 6 indicators) sub-categories.
5. There are significant differences related to Sustainability Reporting between Universitas Diponegoro and Universitas Negeri Semarang. This supports Stakeholder Theory that Universitas Negeri Semarang which is oriented to conservation has made more social and environmental disclosures compared to Universitas Diponegoro which is based research.

Limitation

This study compares content in different types of reports from two universities in Indonesia (Unnes and Undip) causing limitations in the validity of comparability. This is limitation of this research. From the results of this study, several implications can be obtained as follows:

1. For researchers, there are several implications related to the study of sustainability. First, researchers can focus on the university's view on sustainability reporting and whether the GRI G4 standard is fully compatible with the university and the existence of stakeholder needs for sustainability reporting. Second, it is important to see the relationship between sustainability

performance and sustainability reporting by universities in Indonesia. Undip in the UI Green Metric 2018 and 2019 has a higher score and ranking than Unnes although Unnes in reporting shows a higher percentage of disclosure. This indicates that disclosure and reporting are not always in line with actual performance. Many aspects that may be considered by universities in Indonesia are already inherent and do not need to be reported. Third, research in different contexts. Both of these universities are universities under the ministry of higher education which are required to comply with applicable regulations. Therefore, the most important stakeholder is the ministry of higher education. With different contexts, the results in private universities may be different because the orientation and main stakeholders are also different.

2. For Universities, there is a role and moral obligation to educate the public regarding the impact of their operations on the environment. In addition, universities can conduct reporting related to sustainability in order to communicate themselves better to the public (stakeholders). Reporting does not merely have an impact on the legal and administrative aspects, further, sustainability reporting shows commitment, stakeholder involvement, and accountability mindset.
3. For regulators, in order to formulate regulations and reporting standards related to the disclosure of Sustainability Reporting for universities in Indonesia that are driving change in sustainability management.
4. Implications for stakeholders, can contribute by increasing involvement with universities related to Sustainability Reporting for the sake of the sustainability of universities, environmental preservation, and saving the earth.

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