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Quality of Carbon Emissions Disclosure on Corporate Sustainability Report Gojek Period 2020 and Goto Period 2021 – 2022

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ABSTRACT: The high level of air pollution which is increasing from year to year causes air quality to decline. One of the causes of the increase in air is the growth in the number of motorized vehicles which causes an increase in the amount of emissions released in the form of Carbon Monoxide (CO), Hydrocarbons (HC), Nitrogen Oxide (NO). This shows that climate change is occurring. Climate change is one of the environmental problems that is currently of concern to stakeholders. The Carbon Disclosure Project (CDP) is a non-profit organization that operates focused on addressing environmental issues. CDP works by publishing information sheets which are useful as a guide for companies to disclose greenhouse gas (GHG) emissions resulting from the company's business activities. The company publishes a sustainability report which reveals carbon emissions. GoTo is a merger between Gojek and Tokopedia where in 2020 Gojek published a sustainability report. Scoring of carbon emission disclosures both quantitatively and qualitatively was carried out in this research. During the 2020-2021 period, the highest level of suitability and quality of disclosure was obtained by GoTo. Quantitatively, the climate change category has high disclosure quality. Qualitatively, the GHG emissions calculation category has the highest disclosure quality.

Keywords: carbon emission disclosure, sustainability reports

INTRODUCTION

In today's digital era, companies can develop and have diverse industrial production results. With the development of the business world, it is expected to have a positive impact and create wider jobs for the community and improve the economy. However, the development of the company also causes negative impacts such as environmental damage which is a concern from several parties. Fierce competition is carried out by companies to obtain greater natural resource benefits. This does not pay attention to the balance of the environment, ecosystem or the company itself.

Environmental damage that occurs today is environmental pollution. Express the definition of environmental pollution as an activity carried out by humans that has a negative influence on environmental conditions. Some types of environmental pollution that have occurred today are water, soil and air pollution. Water pollution is a change in

conditions in a water reservoir such as lakes, rivers, oceans and groundwater due to human activities, soil pollution is a condition where man-made chemicals enter the soil and change the environmental conditions of natural soil. Air pollution is one of the environmental damages in the form of a decrease in air quality due to the entry of harmful elements into the air or atmosphere of the earth such as greenhouse gas emissions. (Dewata & Danhas, 2023)

One of the problems that arise due to ignoring the balance of the ecosystem environment is air pollution. The high air pollution that is increasing from year to year causes air quality to decrease, especially in the Jakarta area. Jakarta's air quality ranks 8th worst in the world. Based on IQAir data, the pollution level in Jakarta is at 141 US AQI on Thursday, November 16, 2023. Meanwhile, the PM 2.5 concentration level is 52 μg/m³ or equivalent to 10.4 times the annual air quality guideline value of the World Health Organization (WHO). This indicates that the air quality in Jakarta is currently at an orange indicator which means that the air quality in Jakarta is not healthy for a sensitive group of people. In 2023, it is estimated that there will be 12,000 cases of death due to air pollution that occur in Jakarta. Air pollution has also cost Jakarta around US$3.3 billion or Rp 51 trillion in 2023. (Source: https://jakarta.bisnis.com)

People continue to use masks to avoid air pollution even though the COVID-19 pandemic has subsided. The cause of air pollution that has occurred in Indonesia since 2015-present is caused by several factors. Based on IQAir data in October 2015, air pollution in Indonesia was triggered by nearly 5,000 cases of forest and peatland fires that occurred simultaneously. In one day alone, about 80 million metric tons of carbon dioxide (CO2) are produced. In addition to forest fires, pollution factors result from the transportation sector and energy production. For the Jakarta area, air pollution is mostly caused by the rapidly increasing emissions of coal-fired power plants. This condition is exacerbated by transport emissions, household emissions, construction industry, road dust and uncontrolled burning of forests and agricultural land. All this happens every day and affects the lives of its 25 million people (Source: https://tirto.id). Another factor in the occurrence of pollution is climate change that occurs today (Handayani et al., 2021)

The growth in the number of motor vehicles is directly proportional to the level of air pollution and congestion. This was revealed by the DKI Jakarta Provincial Environmental Service (DLH). The increase in the number and type of vehicles causes an increase in the amount of emissions released in the form of Carbon Monoxide (CO), Hydrocarbons (HC), Nitrogen Oxides (NO), to dust that causes air pollution. DLH Jakarta has conducted an air pollution emissions inventory calculation with Vital Strategies. The results show that the largest source of pollution in Jakarta is from the transportation sector for PM2.5, NOx, and CO pollutants (Source: https://otomotif.kompas.com).

In dealing with this increasingly high case of air pollution, the Government has instructed to carry out short-term, medium-term and long-term handling. The first step taken to

deal with air pollution is weather modification such as artificial rain. Other steps are reducing the number of coal-fired power plants for emission control, sharing working hour options, increasing the use of public transportation during peak hours, and accelerating vehicle electrification and comprehensive supervision (Source: https://news.detik.com).

One solution to the source of air pollution caused by motor vehicle emissions is to encourage the use of electric vehicles. Several parties have prepared several regulations, from emission quality standards regulations to electric battery recycling activities . Electric vehicles do have the potential to be a solution to air pollution in Jakarta. Although the use of electric vehicles can make the air cleaner, the correct way of battery waste management is needed in order to prevent other environmental pollution. However, the use of electric vehicles that can reduce emissions has not directly changed the quality of already dirty air. In addition, the thing to note from the use of electric vehicles is the difference in the cost of using conventional fuel and electricity. Public awareness and public participation are crucial factors in the use of electric vehicles (source: https://www.cnnindonesia.com).

Currently, the Government is implementing the use of electric vehicles. The government also encourages online transportation applicators such as Grab, Gojek, Maxim to use electric vehicles. Furthermore, the use of electric buses will also soon be launched by DAMRI. Electric motorcycles that have been circulating in the community currently reach 10,300 while the population of electric cars is above 1,500 pieces. After the issuance of Presidential Regulation 55 of 2019 concerning the Acceleration of the Battery-Based Electric Motor Vehicle Program, it is expected that more and more use of electric vehicles in the community. The ownership and manufacturing of the electric motor vehicle industry in Indonesia has increased from 5 APM to 22 APM. However, the availability of electric vehicle charging stations is still limited and the price of electric vehicles is still quite high, especially in battery components, causing limited use of electric vehicle cars. In addition, public encouragement is needed to convert fuel-based vehicles to electric vehicles in order to accelerate the national motor vehicle electrification program. Currently, the conversion of conventional vehicles to electric vehicles has been listed in the Regulation of the Minister of Transportation (Permenhub) No. 65 of 2020 concerning the Conversion of Motorcycles with Combustion Motor Drive into Battery-Based Electric Motorcycles (Source: https://dephub.go.id).

Companies tend to engage in responsible practices as environmental concerns increase. Entities that affect the environment, especially in terms of carbon emissions, need to coordinate their carbon emission reduction efforts both at the global and national levels. In building shareholder trust, disclosure regarding carbon emission information is essential for organizations related to the company's plans to contribute to environmental conservation. (Firmansyah et al., 2021).

In 1999 awareness of social responsibility already existed in Indonesia. However, because there are

no rules regarding the form and content of the sustainability report, sustainability reporting is still voluntary. In 2016, publicly traded companies that published sustainability reports referencing GRI Standards were only about 9 percent. Every Public Company is required to make a sustainability report (Farhana & Adelina, 2019). This is regulated in where the sustainability report is prepared separately from the annual report and becomes an inseparable part of the annual report. Financial Services Authority Regulation Number 51/PJOK.03/2017

In 2023, PT Adaro Minerals Indonesia Tbk (ADMR), a mining issuer, allegedly greenwashed to seek funding from the International Bank of USD 2 billion to finance an aluminum project. This is because ADMR uses 75% of aluminum smelters and 25% uses hydro- or water-based power plants in Russia (source: https://www.cnbcindonesia.com/). Royal Dutch Shell, a gas and oil company, has had to fight several court cases in the Netherlands over greenwashing as a global fossil fuel power plant. Shell has repeatedly launched campaigns and interviews depicting itself as committed to a global net-zero programme, reducing carbon emissions, and helping the world fight global warming and switch to renewable energy. However, some reports suggest Shell continues to explore new opportunities for oil and gas production. That's just 1% of its long-term investment in low-carbon renewables. In addition, in 2015, automaker Volkswagen falsified its emissions reports on some of its diesel vehicle lines. This led to several lawsuits and billions in fines. Volkswagen claims its new line of diesel vehicles as one of the most environmentally friendly options. For several years, his vehicle was considered one of the lowest emitters in the combustion engine market. Until the U.S. Environmental Protection Agency realized, the vehicle produced up to 40 times more emissions than advertised. Volkswagen denied falsifying its data and misleading the public, saying it had misunderstood the testing requirements (Source: https://barisan.co/).

As a step to prioritize harmony between economic, social, and environmental aspects, sustainable development is needed to maintain economic stability, a national economic system is needed. Handling in overcoming the increasing cases of air pollution is carried out by a sustainable economy. Sustainable economics is an emphasis on minimizing adverse impacts on society, the environment, and the effective use of products and services, a circular business model that fuels intrapreneurship and entrepreneurial initiatives. (Sreenivasan & Suresh, 2023).

The publication of sustainability reports has become a common practice among large corporations, especially after the Global Reporting Initiative (GRI) launched its guidelines to encourage more comparable and reliable disclosure of social, environmental, and economic issues. Since its inception in the late 1990s, GRI has grown to become the most well-known and powerful standard-setting organization in the field of sustainability reporting. The information disclosed in the GRI report increasingly influences the perceptions and decisions of investors, shareholders, communities, and many other

stakeholders. GRI adheres to the materiality principle to ensure that disclosures reflect the reporting organization's significant economic, environmental, and social impacts, or substantively influence stakeholders' judgments and decisions. Although materiality analysis is often considered important in sustainability reporting, there is a lack of empirical studies on its transparency in published reports. The extent to which the materiality principle actually affects reporting practices, is not always disclosed by companies. In building trust in the information reported, companies may be transparent in the application of the materiality principle, but not necessarily transparent in the details. There are still many open questions related to the drivers and patterns of materiality analysis in the context of sustainability reporting, which are very different from the field of financial accounting (Machado et al., 2021)

Based on research conducted by states that disclosure of materiality can improve reporting and contribute to closing discretionary freedom. What is still missing from empirical studies is a theoretical perspective that helps explain the motives for voluntarily disclosing materiality-related information, which in turn can help increase the credibility of these reports. However, the reporting of sustainability reports on materiality assessment is still voluntary. This causes the company to only report relevant topics only to key stakeholders (Beske et al., 2020).

Environmental disclosure standards include the Carbon Disclosure Project (CDP), the Task Force for Climate-related Financial Disclosures (TCFD), and the International Sustainability Standard Boards (ISSB). CDP is a non-profit organization that operates as a global system for disclosure for investors, companies, cities, states, and territories to manage environmental impacts. CDP measures an organization's environmental disclosures to stakeholders, and top management's commitment to climate change fighting practices. Some of the benefits of CDP measurement include content, procedures, and requirements CDP guidelines are standards for companies to provide relevant information. In addition, reporting resulting from information collection and rating procedures is consistent for all companies. This makes it possible to make comparisons between companies. CDP reporting includes more detailed carbon performance information. (Oktay et al., 2021).

In December 2015, the Financial Stability Board (FSB) established a task force led by the climate change finance disclosure industry (TCFD) to develop climate change-related disclosures. It aims to enable stakeholders to better understand the quality of carbon in the financial sector and financial system against risks related to climate change. In 2017, the TCFD released its recommendations for climate-related financial disclosures. Governance, strategy, risk management, and metrics and targets are thematic areas that describe the core elements of a company's operations (Condon et al., 2020).

The International Sustainability Standards Board (ISSB) was formed in 2021 by the International Financial Reporting Standards (IFRS) in Glasgow. In 2022, ISSB published the Exposure Draft IFRS Sustainability Disclosure

Standard which aims to make sustainability-related financial information comparable and verifiable to help investors, lenders and creditors assess a company. Sustainability-related risks and opportunities arise from a company's dependence on resource sustainability and its impact on resources. The Company is required to disclose material information about all significant risks related to sustainability and the opportunities it faces.

Disclosure of carbon emissions can be viewed from both quantitative and qualitative perspectives. Conduct research using multiple linear regression quantitative approach to examine the effect of carbon emission disclosure quality on company value. and conduct research on carbon emission disclosure using a quantitative approach. Previous research on the quality of carbon emission disclosure using a qualitative approach has been scant, as conducted by (Kurnia et al., 2021) (Gwada et al., 2019) (Borghei et al., 2018) (Ovina & Meiden, 2024) and (Choi et al., 2013) whose research scored 18 sub-categories of carbon emission disclosure.

Although companies are now starting to report GHG emissions in sustainability reports, it does not mean that the reports submitted are of high quality. Therefore, the author is interested in knowing the quality of carbon emission disclosure and discussing it in this study entitled "Quality of Carbon Emission Disclosure in Gojek Corporate Sustainability Report for the 2020 Period and GoTo for the 2021 – 2022 Period".

The purpose of this study is to investigate and analyze carbon emission disclosures in corporate sustainability reports, focusing on frameworks used such as the Carbon Disclosure Project (CDP), Task Force for Climate-related Financial Disclosures (TCFD), and International Sustainability Standard Boards (ISSB). The study aims to answer several questions, including how the three frameworks are disclosed in sustainability reports, as well as to evaluate the quality of disclosures on climate change and carbon emissions made by companies using standards from CDP, TCFD, and ISSB. Thus, the main objective of this study is to provide a better understanding of carbon emission disclosure practices in sustainability reports and evaluation of the quality of such disclosures.

RESEARCH METHOD

This study aims to evaluate the level of quality of carbon emission disclosure from the two largest digital companies in Indonesia, namely Gojek and GoTo. The method used is descriptive analysis by comparing the sustainability report data of the two companies with the Carbon Disclosure Project (CDP) standard. The research variable is the level of quality of carbon emission disclosure measured through 18 sub-categories based on CDP standards. The data was collected through secondary data observations from Gojek's (2020) and GoTo's (2021-2022) sustainability reports. Sampling using purposive sampling techniques with the criteria of issuers of the digital service industry that publish sustainability reports from 2020-2022. Data analysis was conducted through content analysis to assess the quantity and quality of carbon emission

information in sustainability reports, as well as a comparative method to compare the level of quality of disclosure between Gojek and GoTo. Assessment of the quality of disclosure is carried out by scoring method based on quantity and type of information, with results categorized into high, medium, and low. The results of data analysis will be presented through the calculation of total and average scores, scale grouping, as well as comparison and analysis of results obtained from both companies.

RESULT AND DISCUSSION

Analysis and Discussion

Carbon Emissions Disclosure Conformity Analysis Based on 18 Sub-Categories

Table 1 shows the calculation of the suitability of carbon emission disclosure in Gojek's 2020 and GoTo's 2021-2022 sustainability reports based on 18 sub-categories.

Table 1
Conformity Calculation Results
Gojek and GoTo Carbon Emission Disclosure

Issuer Code	Year			Average	%	Compatibility Level
	2022	2021	2020			
Goto	16	15		15,5	86,11%	Tall
Gojek			14	14	77,78%	Low

Source : Data processed by the author (2024)

$$\text{Interval Kelas} = \frac{86{,}11\% - 77{,}78\%}{3} = 2{,}78\%$$

Information:
Low quality level : 77.78% - 80.56%
Medium quality level : 80.57% - 83.35%
High quality level : 83.36% - 86.11%
Source: Data processed by the author (2024)

Discussion of the suitability of carbon emission disclosure based on18 sub-categories

Based on the results in Table 1 above, it can be seen that Gojek revealed an average of 14 sub-categories out of 18 sub-categories in the CDP reference that have been modified by or by 77.78%. The sub-categories not disclosed by Gojek in 2020 are Comparison of GHG emissions with previous years (GHG7), Quantification of energy used from renewable sources (EC2), Emission reductions and associated costs or savings achieved to date as a result of the reduction plan (RC3), and Future emission costs taken into account in capital expenditure planning (RC4). The disclosure is not fully disclosed by Gojek because Gojek is not a public company and the 2020 sustainability report is Gojek's first sustainability report.

The level of suitability of carbon emission disclosure carried out by GoTo received a high predicate. In 2020 to 2021, there was an increase in suitability although only 1 sub-category namely (RC3) Emission reductions and associated costs or savings achieved to date as a result of the reduction plan, where GoTo conducted trials for the first time using 500 two-wheeled electric motorcycles in 2021 to achieve the target of transitioning to 100% EVs by 2030. The disclosure of carbon emissions made by GoTo increased by 1 sub-

category from 2020 to 2021 where the addition was due to the disclosure occurred in the sub-category (EC2) of quantification of energy used from renewable sources. In 2022, the total fuel consumption from renewable sources is 20.49 GJ. The renewable energy is the energy consumed by solar panels at Tokopedia's head office, and does not include solar energy lost during conversion into electricity. Tokopedia Head Office uses solar panels to produce additional energy for the building.

Conformity analysis is not the only way to assess the quality of a company's carbon emissions disclosures. Conformity rate simply counts the number of items revealed in the sustainability report. In conducting this study, the authors refer to research conducted by which uses 18 sub-categories to measure the quality of carbon emission disclosure. In the next sub-chapter, the author will describe the quality of carbon emission disclosure through analytical content.

Quality Analysis of Gojek and GoTo Carbon Emission Disclosure

Table 2 shows the results of the average score of carbon emission disclosure quality in Gojek's 2020 and GoTo's 2021-2022 sustainability reports by taking into account quantitative aspects.

Table 2
Disclosure Quality Calculation Results Carbon Emissions Based on Gojek and GoTo (Quantitative Aspect)

Issuer Code	Year			Average	Rank	Compatibility Level
	2022	2021	2020			
Goto	3	2,67		2,83	1	Tall
Gojek			2,50	2,50	2	Low

Source : Data processed by the author (2024)

$$\text{Interval Class} = \frac{2{,}83 - 2{,}5}{3} = 0{,}11$$

Information:
Low quality level : 2.5 – 2.61
Medium quality level: 2.62 – 2.73
High quality level: 2.73 – 2.83
Source: Data processed by the author (2024)

Based on the table above, the quality of carbon emission disclosure is quantitatively highest owned by GoTo with an average score of 2.83 with a high rating. While in second place, Gojek has an average score of 2.50 with a low predicate

Table 3 shows the results of the average score of carbon emission disclosure quality in Gojek's 2020 and GoTo's 2021-2022 sustainability reports by taking into account qualitative aspects.

Table 3
Disclosure Quality Calculation Results
Carbon Emissions Based on Gojek and GoTo (Qualitative Aspect)

Issuer Code	Year			Average	Rank	Compatibility Level
	2022	2021	2020			
Goto	4,39	4,06		4,22	1	Tall
Gojek			3,50	3,5	2	Low

Source: Data processed by the author (2024)

$$\text{Interval Kelas} = \frac{4{,}22 - 3{,}5}{3} = 0{,}24$$

Information:
Low quality level: 3.5 – 3.74
Medium quality level: 3.75 – 2.99
High quality level : 4.00 – 4.22
Source: Data processed by the author (2024)

Discussion on the Quality of Gojek and GoTo Carbon Emission Disclosure

Based on the table above, the quality of carbon emission disclosure is qualitatively the highest owned by GoTo with an average score of 4.22 with a high rating. While in second place, Gojek has an average score of 3.50 with a low predicate.

The addition of disclosure of the quality of carbon emission disclosure both in quantitative and qualitative aspects that occurred in the 2020 sustainability report published by Gojek to the 2021 sustainability report published by GoTo is the category of Emission reduction and related costs or savings achieved to date as a result of the reduction plan (RC3). Meanwhile, the increase in quantitative and qualitative aspects revealed by the sustainability report published by GoTo from 2021 to 2022 is the category of Quantification of energy used from renewable sources (EC2).

Quantitatively and qualitatively, Gojek has revealed a lot about each sub-category. In its 2030 sustainability commitment, Gojek wants to realize zero emissions, zero waste, and zero *barriers*. Gojek also follows government policies and long-term goals to address climate change issues by raising awareness and increasing ecosystem mitigation and resilience to climate change risks and adaptation within the ecosystem. Gojek conducts carbon reduction through the *GoGreener Carbon Offset* feature in the application which has been registered to the National Registration System managed by the Ministry of Environment and Forestry, to support the Government of Indonesia's target of reducing emissions by 29% by 2030. It's just that because Gojek is not a public company, it is not required to disclose information in sub-categories. In addition, the 2020 sustainability report is the first sustainability report published by Gojek.

But on the bright side, after Gojek and Tokopedia merged in 2021 and conducted an IPO in 2022, there was an increase in the quality of disclosure quantitatively and qualitatively from 2021 to 2022. From 2021 to 2022, there was an increase in the average score of its disclosures qualitatively. GoTo as a technology company that offers various services consisting of *e-commerce*, *financial technology*, and *on-demand* services participates in supporting government programs to reduce carbon emissions. One tangible form is

providing *GoRide Electric* where the Gojek electric motorbike service is new, in addition to the *GoFood* application has tried to combine orders from several customers into one delivery, to optimize driver time and reduce emissions. GoTo also launched the *GoGreener Tree Collective feature* on the Gojek and Gofood features.

Tanah Sullivan as *GoTo's Group Head of Sustainability* in his interview, SIRD #54 – The Company's Role in Pollution Prevention, stated that 75% of the emissions obtained by GoTo come from *scope* 3 or *indirect sources*, which means that the vehicle used by the driver in carrying out its activities is not from GoTo but the vehicle comes from the driver's partner either own or rented. Therefore, GoTo took steps to reduce emissions by transitioning the target of 100% electricity distribution. In addition, Tokopedia warehouses also pull *orders* where when *customers* want to order more than one product at two different merchants, these products can be delivered with the same driver. This is so that GoTo can calculate the amount of emissions that can be reduced.

Based on research conducted by revealed that the quality of corporate governance is a key driver for determining the extent to which carbon disclosure is disclosed. In this case, GoTo participates in encouraging carbon emission disclosure as a form of support for government programs to realize (Choi et al., 2013) *Net Zero Emission*. This fact is in line with *stakeholder* theory that companies must design strategies to fulfill their responsibilities to the environment, with efforts to maintain positive relationships with stakeholders, so that their continued existence is guaranteed.

Figure 1 below shows the mapping of the level of suitability and quality level of disclosure (both quantitatively and qualitatively) for Gojek in 2020 and GoTo in 2021-2022 which is the sample of this study.

Table 4 Mapping the Level of Conformity and Quality of Gojek and GoTo Carbon Emission Disclosure

		Quantitative Quality Level		
		R	S	T
Compatibility Level	T			Goto
	S			
	R	Gojek		

R	S	T	R	S	T	R	S	T
Qualitative Quality Level								

Information:
T : Height
S : Medium
R : Low

Source : Data processed by the author (2024)

From the picture above, it can be said that the company with a high level of suitability and quality level is GoTo. While companies with a low level of suitability and quality level from Gojek.

Quality Analysis of Carbon Emissions Disclosure Based on 5 Category

Table 4 below shows the results of the average score of carbon emission disclosure quality in Gojek's 2020 and GoTo's 2021-2022 sustainability reports by taking into account quantitative aspects.

Table 5 Results of Calculation of Quality of Carbon Emission Disclosure Based on 5 Categories (Quantitative Aspects)

Category	Year			Average	Rank
	2022	2021	2020		
CC	5	5	5	5	1
GHG	2,86	2,43	2,43	2,57	3
EC	2,33	1,33	0,67	1,44	5
RC	2,75	2,75	1,5	2,33	4
ACC	3	3	5	3,67	2

Source : Data processed by the author (2024)

Based on the results of the calculation of the quality of carbon emission disclosure above, the first rank of the highest quantitative average score is in the CC category with an average score of 5. Then the second place was achieved in the ACC category with an average score of 3.67. The GHG category ranked third with an average score of 2.57, the RC category ranked fourth with an average score of 2.33, and the EC category ranked fifth with the lowest average score of 1.44.

Table 5 below shows the results of the average score of carbon emission disclosure quality in Gojek's 2020 and GoTo's 2021-2022 sustainability reports by taking into account qualitative aspects.

Table 6 Results of Calculation of Carbon Emission Disclosure Quality Based on 5 Categories (Qualitative Aspects)

Category	Year			Average	Rank
	2022	2021	2020		
CC	4	4	3,5	4	2
GHG	6,00	5,57	5,57	5,71	1
EC	4,33	2,00	1,33	2,56	4
RC	2,75	3,75	2	2,83	3
ACC	2,5	2,5	2,5	2,50	5

Source : Data processed by the author (2024)

Based on the results of the calculation of the quality of carbon emission disclosure above, the first rank of the highest qualitative average score is in the GHG category with an average score of 5.71. Then the second place was achieved in the CC category with an average score of 4. The RC category

ranked third with an average score of 2.83, the EC category ranked fourth with an average score of 2.56, and the ACC category ranked fifth with the lowest average score of 2.50.

Discussion of Quality of Carbon Emissions Disclosure Based on 5 Category

Figure 2 below shows the Quantitative and Qualitative Mapping of Carbon Emission Disclosure Quality by 5 Categories.

Table 7 Quantitative and Qualitative Mapping of Carbon Emission Disclosure Quality based on 5 Categories

		Qualitative				
		5	**4**	**3**	**2**	**1**
Quantitative	**1**				CC	
	2	ACC				
	3					GHG
	4			RC		
	5		EC			

Source : Data processed by the author (2024)

From the picture above, in general, it can be explained that, the best carbon emission disclosure quality category quantitatively and qualitatively based on 5 categories is the CC category. As for the lowest category, the quality of carbon emission disclosure quantitatively and qualitatively based on 5 categories is the EC category.

The climate change risk and opportunity (CC) category ranked first quantitatively but ranked second qualitatively. The CC category reveals the risks and opportunities associated with climate change in view of the risks and actions taken, as well as the future implications of climate change. The high quantitative score shows that Gojek and GoTo reveal a lot about the risks and opportunities due to climate change. A slightly lower qualitative score indicates that Gojek and GoTo have described risks and opportunities through qualitative explanations and adding non-monetary information, and tables. From the 2020 sustainability report published by Gojek to 2021-2022 with the sustainability report published by GoTo, the disclosure quality score for the CC category has increased. This means that GoTo is increasingly revealing risks and opportunities related to climate change and also getting more quality with more specific information in it.

The GHG emission calculation category is ranked third quantitatively and first qualitatively. This means that quantitatively, Gojek and GoTo have revealed a lot of information related to this category. Qualitatively, Gojek and GoTo have revealed many categories regarding GHG. When viewed from the annual movement, GoTo began to improve the quality of disclosure of this GHG category, both quantitatively and qualitatively.

The energy consumption (EC) accounting category ranked fifth

quantitatively and ranked fourth qualitatively. This means that quantitatively, the company still does not disclose much information related to this category. Qualitatively, the company is still incomplete in disclosing this

category regarding EC. This is because in the 2020 sustainability report, Gojek has not disclosed much about renewable energy and in the 2021 sustainability report after Gojek and Tokopedia merged revealed that as of January 2022 GoTo had purchased 361 *Renewable Energy Certificates* (REC) from the State Electricity Company (PLN), which is equivalent to electricity consumption of 361,000 kWh. The number of RECs will continue to grow to help offset some of our carbon footprint and increase our contribution to renewable energy projects. In its 2022 sustainability report, GoTo revealed its total fuel consumption from renewable sources. When viewed from the annual movement,

GoTo began to improve the quality of these EC category disclosures, both quantitatively and qualitatively.

The GHG and cost reduction (RC) category ranked fourth quantitatively but ranked third qualitatively. This shows that the company does not write too much about GHG reductions and costs in its sustainability report. Qualitatively, GoTo has also described the RC category qualitatively and also accompanied by a non-monetary nominal related to the percentage of GHG emission reduction targets. The annual movement shows an increase from 2020 to 2021 in the quantitative aspect. But from a qualitative aspect, there are fluctuations in quality disclosure.

The carbon emission accountability category (ACC) ranked second quantitatively and fifth qualitatively. However, there was a decrease in the quantitative aspect and remained constant in the qualitative aspect. The results show that the company has not appointed which board committee is tasked with paying attention to climate change and there is no mechanism in managing the impacts of climate change. Because of this, the company does not yet have a special committee or executive body that is really tasked with dealing with this climate change problem.

The results of this study are in line with research conducted by which states that non-financial information is indeed increasingly important, especially with regard to the risk context. Therefore, quantitatively the first rank is in the CC category because it contains information needed by investors related to risk. Meanwhile, qualitatively, the GHG category is ranked first because it contains non-financial information regarding GHG emission calculations so that it has more significance for investors. This research is in line with the theory of legitimacy which states that by displaying a positive image owned by the company, the company wants to attract public interest (Hummel & Jasari, 2022).

Quality Analysis of Carbon Emissions Disclosure Based on 18 Sub- Category

Table 6 shows the results of the average score of carbon emission disclosure quality in sustainability reports based on 18 sub-categories during 2020 – 2022 by taking into account quantitative aspects.

Table 8 Results of Calculation of Quality of Carbon Emission Disclosure Based on 18 Subcategories (Quantitative Aspects)

Sub-Categories	Year			Average	Rank
	2022	2021	2020		
CC1	5	5	5	5,00	1
CC2	5	5	5	5,00	2
GHG1	2	2	2	2,00	12
GHG2	5	3	3	3,67	5
GHG3	3	3	3	3,00	7
GHG4	3	3	3	3,00	8
GHG5	3	3	3	3,00	9
GHG6	4	3	3	3,33	6
GHG7	0	0	0	0,00	17
EC1	3	2	1	2,00	13
EC2	1	0	0	0,33	16
EC3	3	2	1	2,00	14
RC1	5	5	5	5,00	3
RC2	1	5	1	2,33	10
RC3	5	1	0	2,00	15
RC4	0	0	0	0,00	18
ACC1	5	5	5	5,00	4
ACC2	1	1	5	2,33	11

Source: Data processed by the author (2024)

Based on the quality of carbon emission disclosure based on 18 subcategories in quantitative aspects in the table above, the highest quantitative disclosure quality is in the CC1, CC2, RC1, and ACC1 sub-categories with an average score of 5.00. This shows that on average companies disclose sub-categories CC1, CC2, RC1, and ACC1 by more than 5 paragraphs. The lowest quality of disclosure is the GHG7 and RC4 subcategories, where during the 3 years that Gojek's sustainability report was published in 2020 and GoTo's sustainability report for 2021-2022, no one disclosed any information about this sub-category. At number 16, there is an EC2 sub-category with an average score of 0.33. This shows that GoTo has only revealed the EC2 sub-category regarding the quantification of energy used from renewable sources in 2022 in the form of sentences only. Meanwhile, in 2020 and 2021 it was not disclosed by GoTo and Gojek.

Table 7 shows the results of the average score of carbon emission disclosure quality in sustainability reports based on 18 sub-categories during 2020 – 2022 by taking into account qualitative aspects.

Table 9 Results of Calculation of Quality of Carbon Emission Disclosure Based on 18 Subcategories (Qualitative Aspects)

Sub-Categories	Year			Average	Rank
	2022	2021	2020		
CC1	7	7	3	5,67	7
CC2	1	1	4	2,00	13
GHG1	7	7	7	7,00	1
GHG2	7	4	4	5,00	8
GHG3	7	7	7	7,00	2
GHG4	7	7	7	7,00	3
GHG5	7	7	7	7,00	4
GHG6	7	7	7	7,00	5
GHG7	0	0	0	0,00	17
EC1	3	3	3	3,00	11
EC2	3	0	0	1,00	15
EC3	7	3	1	3,67	10
RC1	7	7	7	7,00	6
RC2	1	7	1	3,00	12
RC3	3	1	0	1,33	14
RC4	0	0	0	0,00	18
ACC1	4	4	4	4,00	9
ACC2	1	1	1	1,00	16

Source: Data processed by the author (2024)

Based on the table above, the quality of carbon emission disclosure based on 18 subcategories in quantitative aspects is qualitatively the highest in the GHG1, GHG3, GHG4, GHG5, GHG6, and RC1 sub-categories with an average score of 7.00. This shows that on average companies disclose information about GHG1, GHG3, GHG4, GHG5, GHG6, and RC1 qualitatively, non-monetary, and diagrams (tables or graphs). The quality of disclosure in the GHG7 and RC4 sub-categories was not disclosed at all in Gojek's sustainability report published in 2020 and GoTo's sustainability report for 2021-2022. While the ACC2 sub-category was ranked 16th and with an average score of 1.00. This shows that the company is starting to disclose the subject of ACC2 but only in the form of sentences, not yet detailed.

Discussion of Quality of Carbon Emissions Disclosure Based on 18 Sub-Categories

Figure 2 below shows quantitative and qualitative mapping of carbon emission disclosure quality based on 18 sub-categories.

		Kualitatif																
		18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1
Kuantitatif	1												CC1						
	2						CC2												
	3													RC1					
	4										ACC1								
	5											GHG2							
	6														GHG6				
	7																	GHG3	
	8																GHG4		
	9															GHG5			
	10							RC2											
	11			ACC2															
	12																		GHG1
	13								EC1										
	14									EC3									
	15					RC3													
	16				EC2														
	17		GHG7																
	18	RC4																	

Sumber : Data diolah Penulis (2024)

Figure 1 Quantitative and Qualitative Mapping of Carbon Emission Disclosure Quality Based on 18 Sub-categories

In figure 3 above, the CC1 sub-category ranked 1st quantitatively but ranked 7th qualitatively. This shows that in the sustainability report, the company provides information on risk descriptions and actions taken related to climate change of more than 5 paragraphs. In terms of content quality, Gojek describes it qualitatively and shows non-monetary figures in its explanation in 2020 and and GoTo describes qualitatively, non-monetary, and diagrams in 2021-2022. Quantitatively, the CC1 sub-category reveals the category of climate change constantly. This means that from year to year both Gojek and GoTo reveal CC1 more than 5 paragraphs. Qualitatively, CC1 has increased from 2020 to 2021. Since Gojek and Tokopedia officially joined in 2021, the CC1 sub-category revealed has become more detailed, including by adding information in the form of diagrams in it.

The GHG1 sub-category ranked 1st qualitatively but ranked 12th quantitatively. Qualitatively, Gojek and GoTo revealed qualitative GHG1, non-monetary figures, and graphs (tables) in 2020-2022. This is as it should be because within the GHG1 sub-category, companies are expected to disclose the total energy consumed. This means that from 2020 to 2022, the company has written down the figures in detail the total energy it consumes. Quantitatively, GHG1 ranked 12th with an average score of 2.00. This means that Gojek and GoTo only display information provided if the disclosure contains sentences and tables, where the table expresses one word, and it is considered a sentence.

GHG7 and RC4 ranked the lowest at 17th and 18th with an average score of 0. This means that from Gojek and GoTo respectively, none of them made disclosures related to the GHG7 and RC4 sub-categories. This sub-category of GHG7 should reveal the comparison of

GHG emissions with previous years. While the RC4 sub-category reveals about future emission costs taken into account in capital expenditure planning. These two things are not disclosed in the sustainability report because Gojek has only published a sustainability report in 2020 so it has no comparison with the previous year, and in 2021 it has only joined Gojek and Tokopedia. Meanwhile, in 2022, GoTo has just conducted an IPO. In addition, GHG emissions are disclosed in sustainability reports for each year. GoTo's plan to transition to 100% EV is an important step in the competition towards a cleaner electric vehicle system in Indonesia.

CONCLUSION

Based on the results of previous research and analysis, it can be concluded that Gojek has a low level of suitability and quality of carbon emission disclosure in 2020, while GoTo showed a high level of suitability and quality of disclosure during the 2021-2022 period. Quantitative and qualitative evaluations show that the Carbon Credit (CC) and Greenhouse Gas (GHG) categories have the highest scores, while Environmental Costs (EC) and Adaptation Costs (ACC) have the lowest scores. The suggestion for the next study is to expand the research object and modify the research design, while for GoTo it is recommended to maintain and improve the quality of carbon emission disclosure by providing more detailed information on the comparison of GHG emissions with the previous year and considering future emission costs in capital expenditure planning.

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