

Text data analysis of the Corporate Social Responsibility (CSR) report, for the retail sector.

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Abstract - With corporate importance, retailers are the primary link between business and society, hence, we examine the prime concerns of some global 203 retailers, finding out their significant impact on society in terms of social, environmental, work ethic, and business performance. Using data from the Global Reporting Initiative (GRI) to investigate how merchants address the criteria of CSR reporting over 14 years, across six geographical locations. We use visualization to create a clearer picture of how things have progressed over time and to conduct a complete study of key findings.

It is proven that global merchants all pay attention to the same characteristics of CSR reporting and do so differently in entities with various locations, the analysis suggests that there is potential for future improvement and a need for tougher government oversight to have a more unique revelation of CSR reporting.

Keywords: (CSR) Corporate Social Responsibility, Retailers, Emissions, Employee health and safety, and Greenhouse gas emissions.

I. INTRODUCTION

This analysis intends to provide an account of corporate social responsibility (CSR) as it relates to corporate communication, examining how and what corporations disclose in their reports from the standpoint of a retailer.

Corporate social responsibility has gotten a lot of press over the years, with rising media interest and rising consumer awareness, all of which have been bolstered by subsequent stakeholder claims directed at firms. Companies' use of CSR reports to express a

feeling of social responsibility raises problems about what types of CSR reports are being generated and how CSR is regarded in light of its importance to businesses and society. (Pia Lotila et al:2004).

Companies are demonstrating increasing attention and dedication to the issue, according to (Pia Lotila et al:2004), with a broad agreement. It's worth noting, however, that CSR is made up of three key components: economic, environmental, and social obligations. Economic responsibility, while interconnected, can also be viewed as a tool of addressing environmental and social issues. Companies in both rich and developing countries are increasing their CSR disclosures, and the agenda is determined by a variety of criteria, including industry and country. (Elena Mayorova: 2019).

The analysis aims to provide a description of practices in the field of corporate social responsibility disclosures from a retailer's perspective using a text data analytics technique. The typical environmental disclosures for shops, according to (Elena Mayorova: 2019), are connected to energy use, carbon dioxide emissions, and waste. New employee hires and employee turnover are also among the most popular social disclosures, as are those related to hazard identification, risk assessment, and incident investigation in the context of occupational health and safety, and the impact of goods and services on consumer health and safety.

The results of our text analysis may be valuable for retailers who are just starting to write sustainability reports, particularly in terms of industry-specific elements of retail corporate social responsibility and what phrases or areas to examine.

II. METHODS & MATERIAL

Comprehensive text analytics using programming in RStudio to see the frequency of keywords and further consider an exploratory method to carry out the analysis using ggplot2, stringr, dplyr, pdfutils, tidyr, stringr, writexl, readxl, and scales to do the project as well as creating visuals for reporting and presentations purposes.

The main task is to show the regulators how firms from the retail sectors are addressing the four key issues of (greenhouse gas emissions, diversity, employee health & safety, and customer welfare) of CSR and how it has been carryout over the years and levels of importance attached.

Step 1. Imported the GRI excel data and created a data frame, then use the dplyr package to filter the data for the retailer's sector as per our task. We further created another data frame that contains new filenames, by concatenating the name and publication year, using the stringr package. A new data frame is created, which contains the columns name, publication year, size, country, region, type, filenames, and exported in the form of an excel document.

Step 2. A vector with all keywords is created and text from all the pdf files in a computer directory is extracted using the pdfutils package. All unwanted space, punctuations, symbols, and numbers are removed while text mining and text with the word count are stored in a separate data frame. Keywords and their frequency are stored in a matrix converted into a data frame and stored in a keywords.xlsx file.

Step 3. The keywords in the different languages are summed together and created a new excel file, which then leads to a new data frame creation and exported to an excel file. The two excel file DF1 and DF is merged by the filename's column.

The final step was to analyze the data using the libraries listed above, followed by visual analysis.

III. RESULT

As important as their CSR reporting may be, retail firms try to position themselves as doing something about the above-mentioned keywords. In an

economic scenario that sees greater attention paid to sustainability issues, the retail sector features significant economic influence and resources to address sustainability challenges successfully. The retail industry is challenged to carry on corporate social responsibility (CSR) initiatives whilst aiming at competitive prices and communicating such CSR activities to its customers and employees, (Francesca Dal Mas et al:2002).

According to (Francesca Dal Mas et al:2002) results highlights the importance of clear and extensive communication and translation of CSR initiatives as a central element to raise awareness and engagement for both employees and customers, positively impacting retail organizations in boosting their business performance and sustainability outcomes at the same time. Practical implications include the need for retail firms to organize their CSR external and internal communication effectively.,

Corporate social responsibility (CSR) has gained traction in the business community over the last decade, and it is increasingly high on boardroom agendas as a growing number of businesses seek to emphasize their commitment to environmental, social, and economic goals that go beyond their commercial activities. (Jones, Peter, et al:2007). This development can also be seen in the graphs below also for the next decade also.

3.1 Descriptive Statistical analysis of data.

The below descriptive statistical analysis shows a recording of 552 files in the retail sector. However, digging into the number of keywords recorded, its maximum value is not half of the total number of files submitted.

```
> summary(Final_df)
      Name      PublicationYear      Size      Country      Region
Length:552   Length:552         Length:552   Length:552   Length:552
Class :character Class :character Class :character Class :character Class :character
Mode :character Mode :character  Mode :character Mode :character Mode :character

      Type      filenames      greenhouse_gas_emission      diversity
Length:552   Length:552         Min. : 0.000         Min. : 0.0
Class :character Class :character   1st Qu.: 0.000         1st Qu.: 0.0
Mode :character Mode :character   Median : 0.000         Median : 2.0
                                   Mean : 1.406         Mean : 9.5
                                   3rd Qu.: 2.000         3rd Qu.: 12.0
                                   Max. :47.000         Max. :126.0

employee_health_and_safety customer_welfare
Min. : 0.00      Min. : 0.000
1st Qu.: 2.00    1st Qu.: 0.000
Median : 11.00   Median : 1.000
Mean : 22.34     Mean : 3.603
3rd Qu.: 31.00  3rd Qu.: 4.000
Max. :232.00    Max. :45.000
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Figure 1. Descriptive Statistical analysis of data

Given the statistics, one can say that regulators should take necessary action to make all firms follow the CSR policies of timely reporting combined with truthful revelations in their reporting. Moving further, we will share our analysis based on the data provided, as well as a more detailed explanation of the material available.

3.2 Analysis of reports submitted per years.

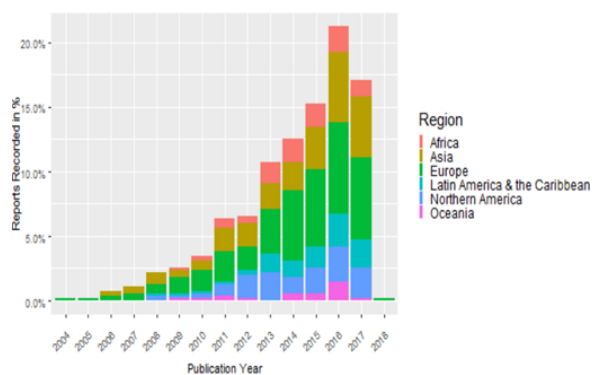


Figure 2. Percentage of reports submitted over the years in six geographical regions.

Europe is the main region in terms of CSR submitters, followed by Asia, North America, and Latin America. It is also worth noting that the percentage of reports submitted in 2017 abruptly lowers, and 2018 is not considered because just a few data points are recorded, and they can be dismissed due to missing information.

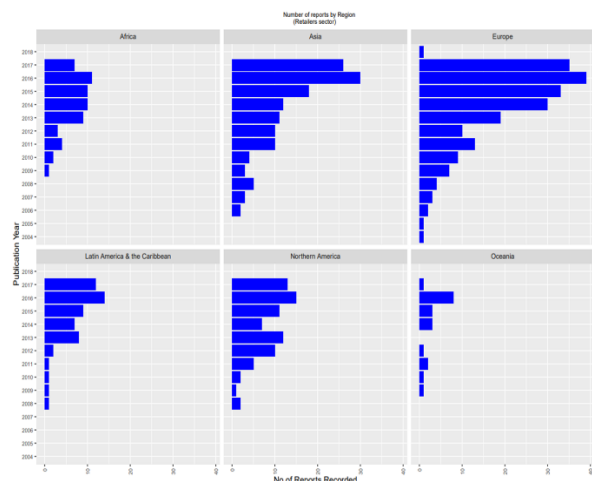


Figure 3. Number of reports recorded over the years in six regions

In Figure 3, we can see how the number of submissions has changed over time for each retail geographical area. It is also worth mentioning that there were no reports from Oceania in 2013. We have noticed a significant drop in report submissions across the board in 2017.

3.3 Analysis base on company size.

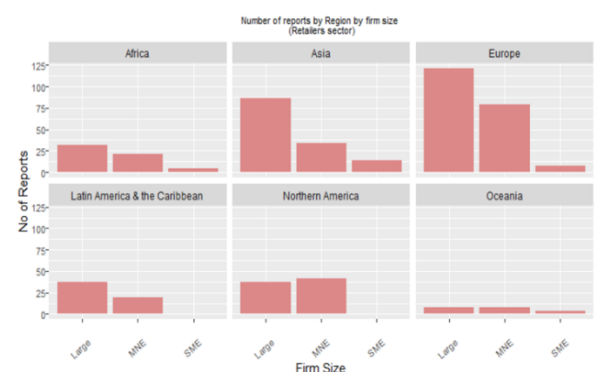


Figure 4. Number of CSR reports based on the firm size in six regions

As seen in the Figure above, a varied size of retail businesses engages in the submission of CSR reports from a different standpoint. What all these regions have in common is that the number of submitted reports on small and medium-sized businesses is relatively low, with regions like Latin America and Northern America being close to zero. However, in the case of medium-sized merchants, aside from Europe, which has a strong record of accomplishment, every other area has a similar number of entries, and the same can be said for large firms. The structure of this result can reveal other information, such as the differences in corporate culture between continents and countries. For instance, CSR is promoted in the EU by the European Union and the Commission, which pushes businesses to follow international norms and principles.

Compared to their larger counterparts, SMEs and MNEs retail firms, find it challenging to engage in CSR projects due to tighter budgetary restrictions. Smaller businesses, however, maybe in a better position to enjoy real advantages from socially responsible practices. Private-sector-driven transformation and corporate social responsibility play an important role, given that small and medium-sized

firms account for 99% of all business entities, thereby making it extremely important to the real economy, especially in rural regions, where they frequently play a vital role in community life (Makoya Kageyama: 2017).

According to (Makoya Kageyama: 2017), finding measures to revitalize small firms should be a top concern for industrial economies striving to recover from years of weak growth. On the same hand, government policy can only do so much in terms of encouraging small company change, and it is important that each business developed strategies that are specific to its industry and unique to its conditions, as in the case of firms shown in figure 4.

3.4 Analysis base on the CSR keywords.

There are some key areas that retail firms should consider as it relates to CSR initiatives, of which philanthropy, environmental, diversity, labor practices, and economic responsibilities stand out. It is also important to scout ways to tell your CSR narrative in an easy-to-understand and compelling manner.

Below, our analysis focused on the four attributes by using text analysis to see how much each of the social, environmental, work ethic, and business performance properties are mentioned in the text of the CSR. Four keywords were used to summarize those priorities, and the results are displayed graphically.

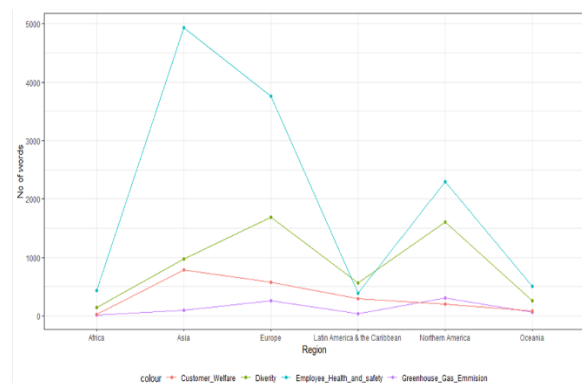


Figure 5. Number of words recorded by four different keywords by six different regions.

As seen in Figures 5 and 6, the primary concern of businesses is employee health and safety, particularly in developed regions such as Asia, North America, and Europe. This particular focus has been

swiftly developed throughout the year for all regions and is untestable as employee health, safety, development, and integrity is one of the most important ingredients for a company's survival and progress. The second item on the list is diversity, followed by customer health, and finally, greenhouse, which is concerned with the environmental impact and awareness that every business must address.

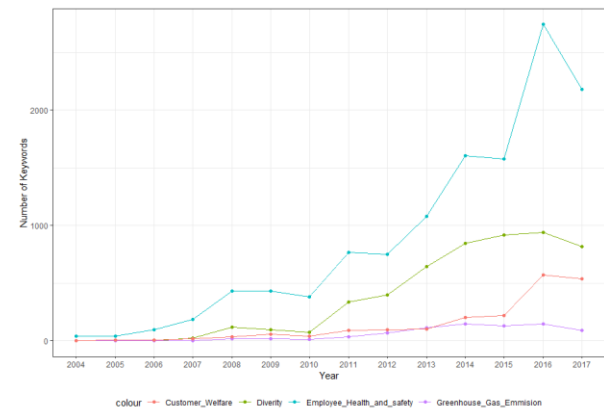


Figure 6. Number of words recorded by four different keywords over the years.

Furthermore, looking at the positive trend that all of the companies are exhibiting in order to enhance their position, as seen in the timeline chart in Figure 5, shows that actions are being taken to improve the overall image and engagement of these companies.

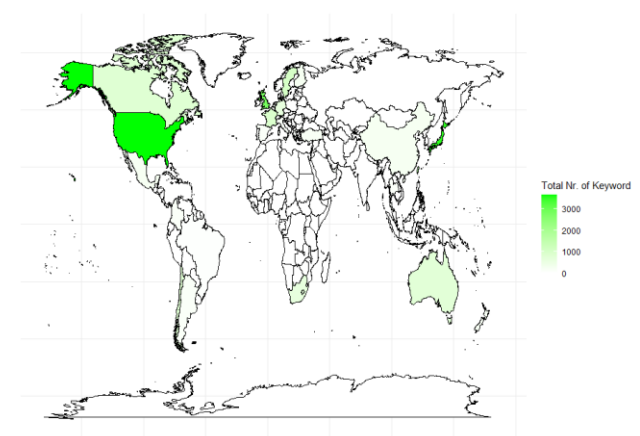


Figure 7. Number of total keywords recorded by all countries.

In the illustration above, we have merged all the keywords to find out the ways nations throughout the world value CSR, given that many nations also are not adhering to policies surrounding CSR, which is unexpected.

We can see that there are some disparities between counties and states of that region when we dig down to the region level and the country level. Looking at Europe as a region with the most reports, we can see that the more developed countries in it, such as Sweden, Germany, the United Kingdom, and Switzerland, have the highest number of CSR report submissions in retailers sectors, indicating that CSR submissions are influenced by the financial state of the country, as well as how much the country prioritizes them over other things and how much the country's policy puts pressure on companies to follow the correct procedures.

IV. CONCLUSION

It is evident that CSR is becoming a central topic for several organizations globally, with the retail industry still appearing as an under-investigated sector, despite its importance in the global business scenario. Our findings show that the global trader all pay attention to the same characteristics of CSR reporting and do so differently given their geography. According to the findings, there is room for future progress and a need for more stringent government regulation. On a more global scale, they should fight for a more harmonized and global approach to CSR, incorporating CSR into education, training, and research. This technique would emphasize the importance of increasing CSR visibility and disseminating policies across areas, hence promoting best practices. The strategy would also improve self-regulatory and co-regulatory mechanisms, as well as company disclosure of social and environmental duties, and provide a more unique disclosure of CSR reporting, which would include major areas of society's concerns.

It's also worth noting that these CSR businesses' communication efforts should be clear and unambiguous, with the audience and their expectations in mind. The publication of concrete results from CSR programs helps to build confidence and increases commitment and involvement. The goal of external communication should be to increase trust and decrease mistrust. Employees' internal communication should be directed at all employees, regardless of their status or duties within the firm.

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