Report of Visualized Analysis on the Reprisk data of Patagonia INC. and Columbia Sportswear Co

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Abstract. Reprisk is an ESG research provider to leverage advanced machine learning together with highly trained analysts. Reprisk data shows the amount of ESG related-risks of the company. The report analyzes the Reprisk data of two clothing companies (Patagonia INC. and Columbia Sportswear Co) to see their performance on ESG and analyze the relationship between ESG performance and the revenue of both companies. As a result, Columbia Sportswear Co's risks related to ESG kept decreasing during the past five years, and the revenue also shows an increasing trend. The increased emphasis on ESG has not affected the increase in profits of Columbia Sportswear Co over the years. In comparison, the current RepRisk Index floated higher when Patagonia had poor sales. This result may be proof that the investment in ESG and the profit are positively correlated. This result can advocate sustainable development for the company, as the investment in ESG will not hurt profits.

Keywords: Reprisk; Patagonia INC; Columbia Sportswear Co.

1. Introduction

Running a business requires taking into account three bottom line which includes the "three Ps": profit, people, and the planet. It means businesses should commit to measuring their social and environmental impact in addition to their financial performance nowadays. The first part, profit, states that many companies do not pay attention to the social and environmental impact because they put profit first, but actually, there is proof that companies that use sustainability can lead to business success. The second part, people, mentions firms gradually start to focus on creating value for all stakeholders that are impacted by business decisions, such as customers, employees, and community members. The third part, planet, states that many firms realize the responsibility to drive positive change to the environment. Overall, the triple bottom line emphasizes that societal and environmental positive influence can exist alongside financial profitability. There are companies that have gained financial benefits through sustainable business practices. (Miller, 2020). Any breaching of the triple bottom line could result in an irreversible outcome. In 2012, the collapse of Rana Plaza in Bangladesh caused more than 1000 workers' deaths in the gourmet industry. This tragedy is due to the use of substandard materials and the blatant disregard for building codes when constructing Rana Plaza (Yardley, 2013). On the personal side, the disaster has shattered countless families; on the corporate side, the affected clothing brands have been called inhumane by consumers while paying high expenses to aid affected families. This event showed that the triple bottom line has long been crucial in business operations. Although few brands can perfectly control the balance between society, environment, and governance, most companies give varying degrees of attention to these factors to minimize the risk. However, some companies are still perceiving these kinds of issues as unessential during business operations. This report builds on data from two influential mid-end sportswear brands, Patagonia Inc and Columbia Sportswear Co, focusing on the importance of sportswear companies to various types of risks(in Environment, Society, and Governance aspects) through their data on the changes in cases that have happened under each attribution in recent years through RepRisk, and then uses R to visualize the data by writing different kinds of code to explore whether there is a connection between corporate social responsibility on middle-end sportswear company sales by comparing the correlation between Corporate RepRisk Index and company sales.

This report contributes a case study of an apparel company regarding ESG. It also discusses the need for sustainability and the fact that ESG and profit growth are not conflicting. It uses Patagonia

INC. and Columbia Sportswear Co as two examples to observe their recent Reprisk performance and how this relates to their revenue trends.

2. Methodology

This research includes the sales data in the recent 5 years of Columbia Sportswear Co and Patagonia Inc from Finra as the sources of sales data, and Date, CurrentRRI, RRI Trend, EnvironmentalPct, SocialPct, and GovernancePct from Reprisk. These data include number data, character data, and POSIXct data. After importing data to R, the research perceived the final conclusion by utilizing different methodologies in R script to form ten charts for data visualization, including five-line charts, two scatter plot charts and three bar charts.

This research separated the whole dataset into two parts: df1 represents the dataset of Patagonia Inc and df2 represents the dataset of Columbia Sportswear Co.

To start with, the line charts show the trend of the Current RepRisk Index (RRI), which denotes the current level of reputational risk exposure of a company related to ESG issues, of those two companies from January 2016 to December 2020. The reason for choosing the line chart is that it can connect data points that show quantitative values over a specified period, which facilitates comparison. To be specific, from Fig. 1, the lowest current RRI of Patagonia Inc was in 2020 and lasted for a period of time. However, the current RRI of Patagonia Inc soon reached its peak in the second half of 2020. From Fig. 2, the lowest current RRI of Columbia Sportswear Co was at the beginning of 2019. After that, the overall trend of its current RRI is upward, gradually reaching the highest point in 2020. Comparing these two line charts reveals that both companies' current RRI peaked in the year 2020. In conclusion, both Patagonia Inc. and Columbia Sportswear Co had the highest reputational exposure to ESG and business conduct risks in 2020.
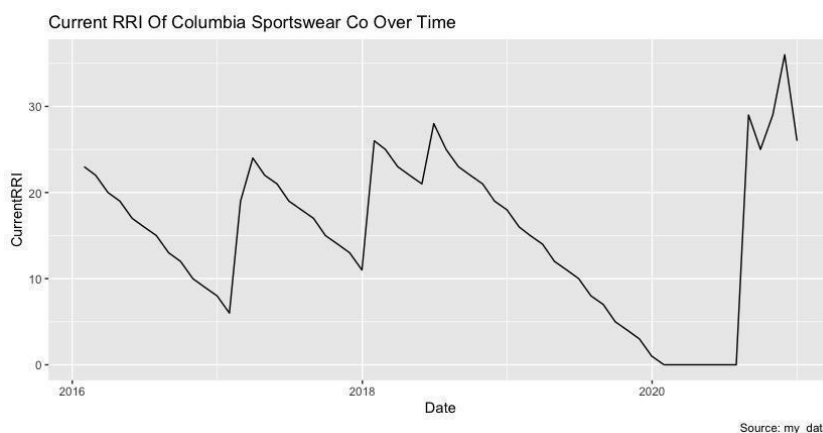

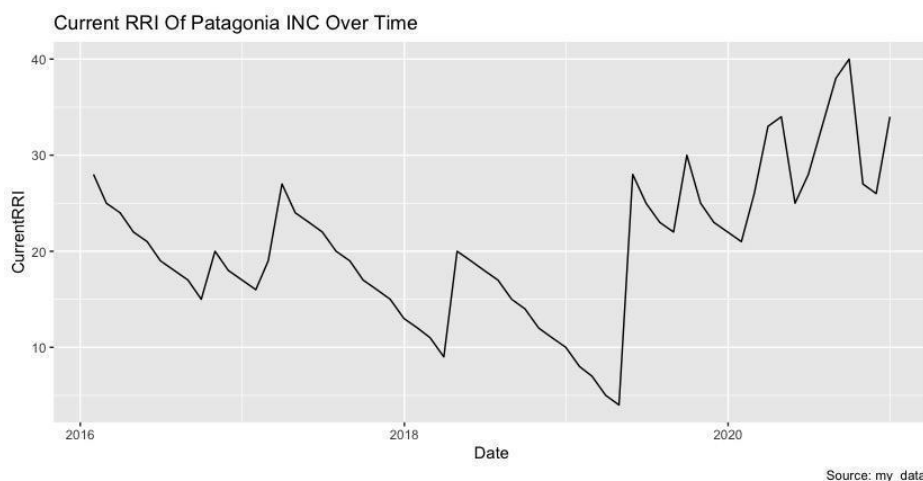**Fig. 1** Current Reprisk of Columbia Sportswear Co from 2016-2020

Fig. 2 Current Reprisk of Patagonia INC from 2016-2020

Next, in order to further observe patterns and predict the behavior of the variables, scatter plots with linear regression lines for Patagonia Inc. and Columbia Sportswear Co are used. (Fig. 3 & Fig. 4).
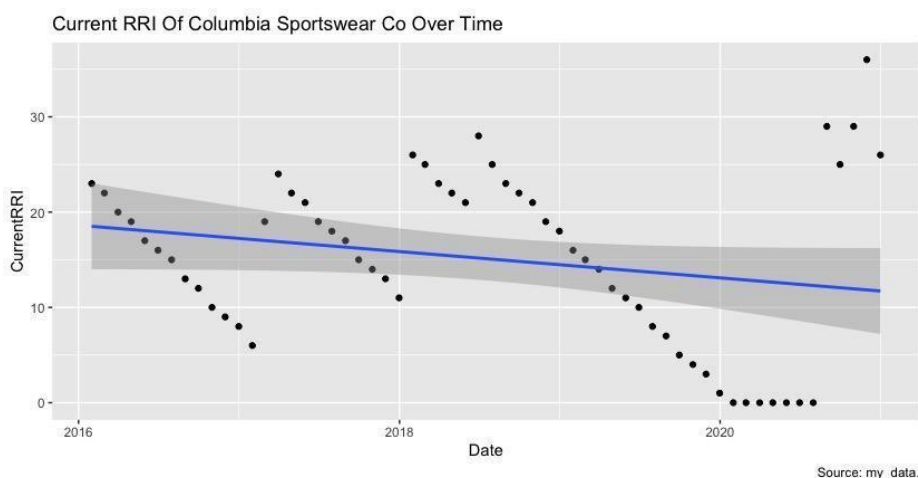

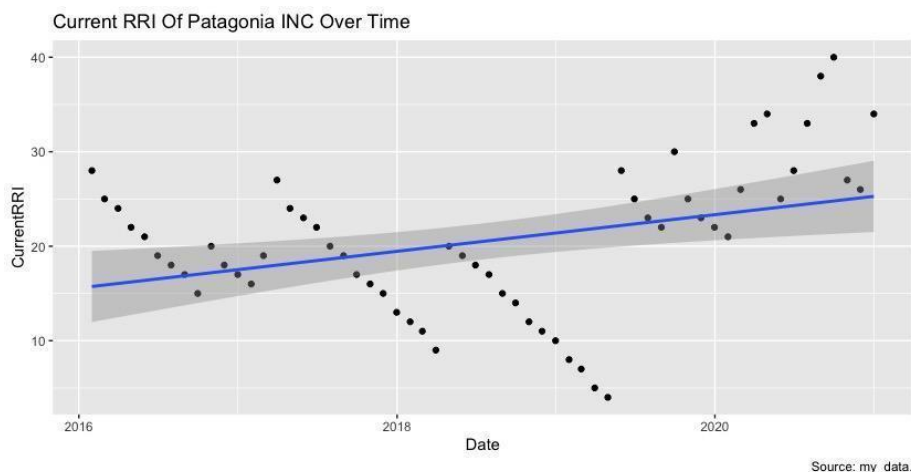**Fig. 3** Current Reprisk of Columbia Sportswear Co from 2016-2020

Fig. 4 Current Reprisk of Patagonia INC from 2016-2020

The main difference between those two companies is the slope of the regression line: For Patagonia Inc., the slope of the regression line is positive. It indicates that the current RRI of *Patagonia Inc* is gradually increasing over time. In contrast, for Columbia Sportswear Co, the regression line slants down. Therefore, the public and decision-makers tend to be bullish on Columbia Sportswear Co based on the current pattern, their reputational exposure to ESG and business conduct risks would keep decreasing in the future.

Then, to compare Patagonia Inc. and Columbia Sportswear Co. "ESG" distribution proportion, the research included the three bar charts for environmental percentage, social percentage, and governance percentage of Patagonia Inc. and Columbia Sportswear Co. The percentages stand for the risk incidents of E, S, and G in proportion to the total number of risk incidents that make up the Current RRI. The reason for choosing the "ESG" percentage variables is to analyze the different levels of environmental, social, and governance importance of the two companies. The more risk incidents occur, the less attention the company pays to this aspect, or the weaker its ability to prevent this kind of risk. Moreover, "fill = `LegalNameOfTheEntity`" is used in the script in order to distinguish between the two companies data.

In Addition, the research included three line charts in order to analyze the trend of the "ESG" percentages of total risk incidents from January 2016 to December 2020. The line chart is chosen because it provides the trend most clearly. In the script, the "geom_line(aes(group = LegalNameOfTheEntity)) + facet_wrap(~LegalNameOfTheEntity)" is used to see the contract of

two companies' trend of "ESG" percentages of total risk incidents. The "geom_smooth(method = "lm")" is also added in the script to provide the overall trend.

Finally, the research included a one-line chart to show the trend of the revenues for Patagonia Inc. and Columbia Sportswear Co. The data for the revenues and entered data into excel "X.xlsx" is found on the website called "Finra". Then, import the excel into R studio and make the line chart to contract the revenue for both companies. Similar to the line charts for the "ESG" percentages of total risk incidents, the "geom_line (aes(group = LegalNameOfTheEntity)) + facet_wrap (~LegalNameOfTheEntity)" and "geom_smooth(method = "lm")" are also used.

3. Results

Fig. 1 shows the visualization of when connecting every adjacent data point of the current RepRisk Index of Columbia Sportswear Co over time. The line plot revealed the irregular change of changes in the current RepRisk Index over years, but the general pattern of the RepRisk Index within a year from 2016 to early 2020 is that it peaks at the beginning of the year, then decreases month by month until it reaches its lowest point at the end of the year. At the beginning of 2020, Columbia Sportswear Co's RepRisk Index was 0 and remained there for a few months, but rose again in the first quarter. The company's Current RepRisk Index value reached its highest level in nearly five years at the end of 2020, indicating many risks exposed at that time. This report does not explore the underlying cause of the phenomenon of this monthly decline trend, but a plausible hypothesis is that this is because every year Columbia Sportswear Co is gradually implementing the prevention and control of various risks.

Fig. 3 shows the scatter plot of the current RepRisk Index of Columbia Sportswear Co. In addition to the scatter plot, Fig. 3 also reveals the general trend (the trend line) of Columbia Sportswear Co's current RepRisk Index over time. The trend implied an extremely slow decline from year to year, meaning that the company's operations of Society, Environment, and Governance were under control based on weight at that time.

So overall, Columbia Sportswear Co has placed more emphasis and increased its management of ESG year by year, and therefore the risks related to ESG have decreased year by year.

Fig.2 shows the current RepRisk Index for Patagonia Inc over time. In comparison with the counterparts of Columbia Sportswear Co, Patagonia reflected more unexpected overtime changes, especially after the first quarter of 2019. In the previous three years, Patagonia also showed a similar pattern of decreasing in one year and reaching a small peak at the beginning of the second year as Columbia Sportswear Co showed. Still, since the second half of 2019, the current RepRisk Index has shown frequent small fluctuations.

Fig. 4 shows the scatter plot of the RepRisk Index for Patagonia Inc over time. In addition to the scatter Points, Fig. 4 also contains the overall trend line for selected years. Unlike Columbia Sportswear Co, the current RepRisk Index reveals an increasing trend of exposing risks for Patagonia Inc, which is a warning sign to the business.

Fig. 5 and Fig. 6 reflect the approximate level of importance that each company places and its trend on the Environment factor in selected years, with red representing Columbia Sportswear Co and blue indicating Patagonia Inc. This bar chart shows that the two companies have completely different environmental considerations despite being in the same industry. Columbia Sportswear Inc has weighted for environmental factors mostly at 0%, indicating that they have not included environmental factors in their measurements for most of the last five years. However, according to Fig. 6, Columbia Sportswear Inc drastically increased its weight of environmental risk from 0% to 100%, showing the importance they attach to the company. In contrast, Patagonia Inc has a more scattered set, but the cases with a percentage of 0.33 are the most common. It is worth noting that other than Columbia Sportswear Co, which recently increased its evaluation of the Environment, Patagonia reflected a downward trend of weight regarding Environmental issues.
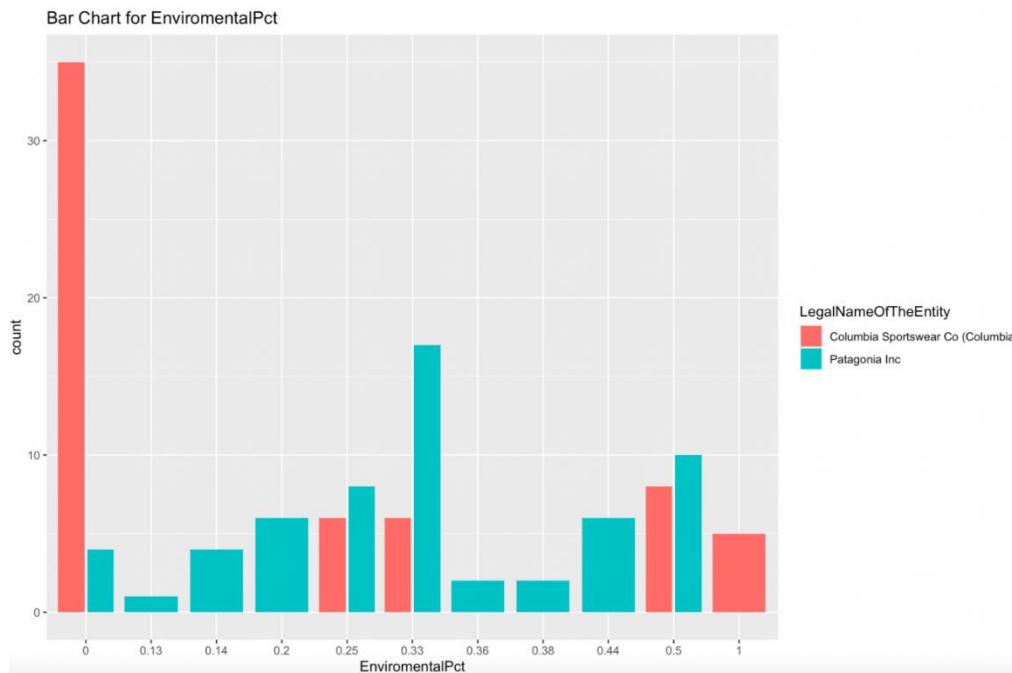
Fig. 5 Bar chart of environmental percentage for Columbia Sportswear Co and Patagonia Inc from 2016-2020
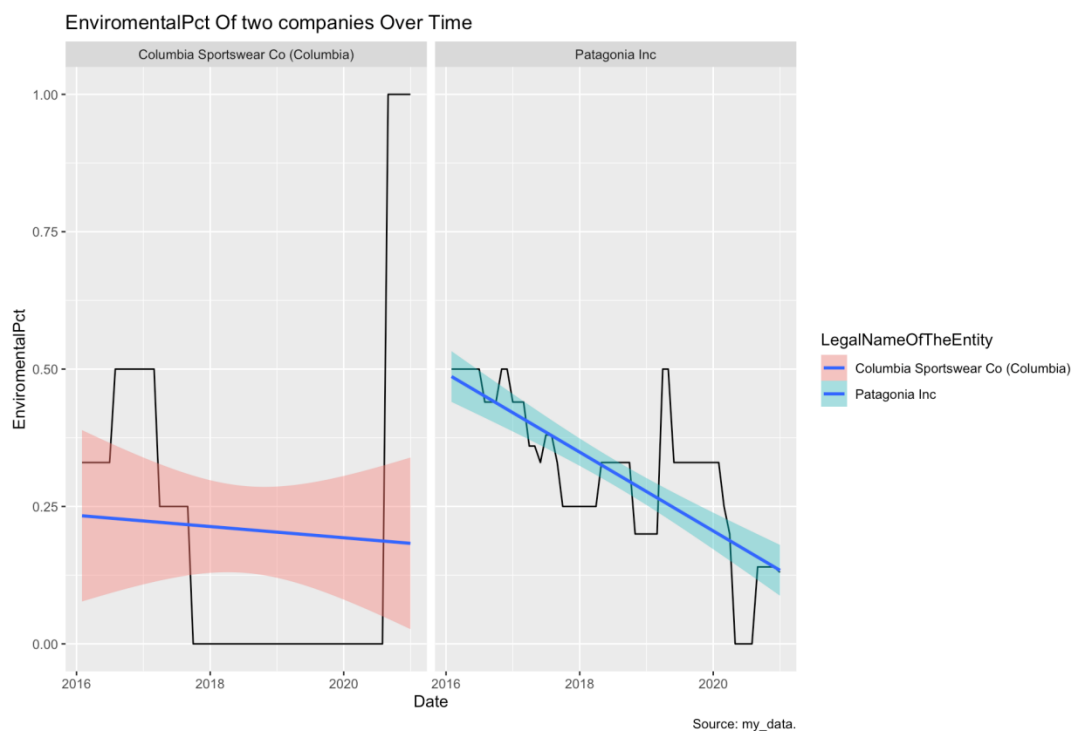

Fig. 6 Line chart of environmental percentage for Columbia Sportswear Co and Patagonia Inc from 2016-2020

Fig. 7 and Fig. 8 reflect the approximate level of importance that each company places and its trend on the social aspect in the selected years, with red representing Columbia Sportswear Co and blue representing Patagonia Inc. For Columbia Sportswear, the most frequent social weighting is 0%. In addition to 0%, weighting of other levels close to 25%, 50%, 75%, and 100%, are also present. In terms of overall trends, Columbia Sportswear Co is basically showing a gradual increase, but in mid-2020, as they bring the environmental weighting to 100%, the social issue percentage also decreases to 0% correspondingly. For general trends over time, both Patagonia Inc and Columbia Sportswear Co have shown an increasing trend of weighting towards social issues. Although the current weight

of social issues has tended to decline since peaking in mid-2020, Patagonia Inc's weight of Social Aspects in RepRisk remained close to 0.75% at the data acquisition date.
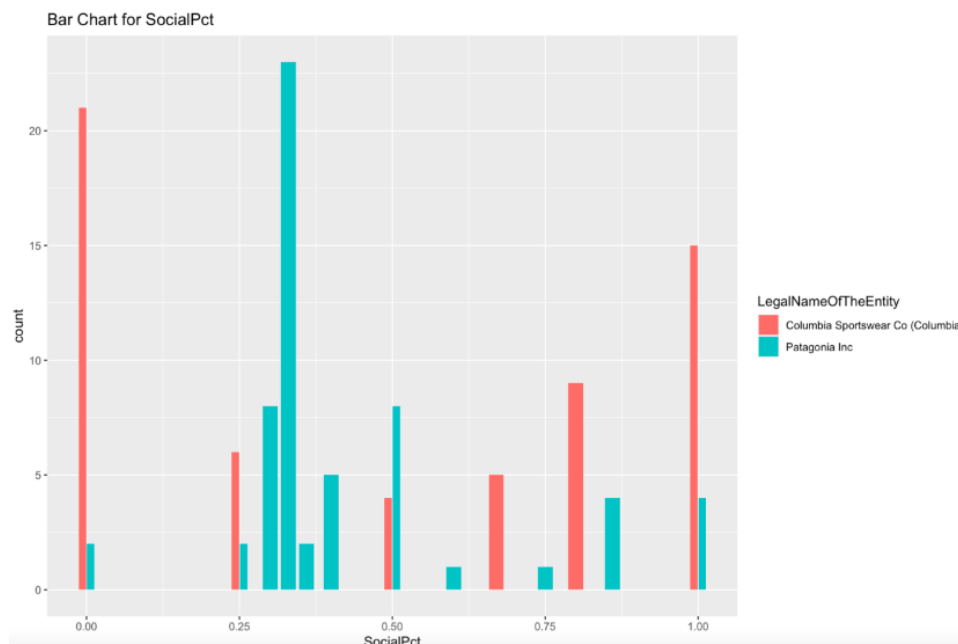

Fig. 7 Bar chart of social percentage for Columbia Sportswear Co and Patagonia Inc from 2016-2020
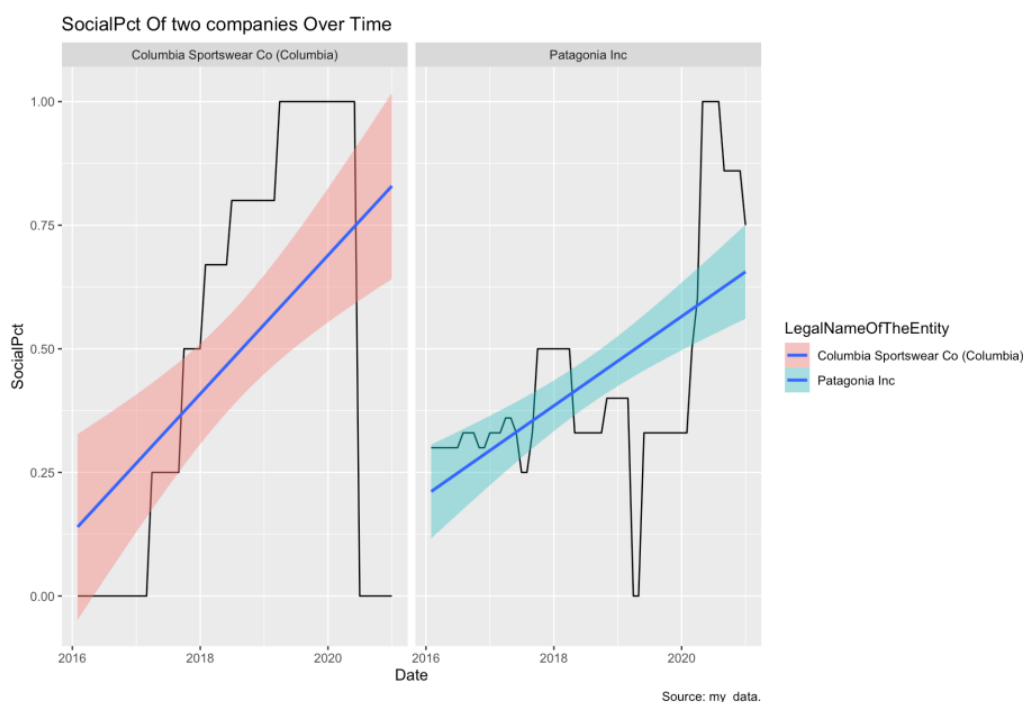

Fig. 8 Line chart of social percentage for Columbia Sportswear Co and Patagonia Inc from 2016-2020

Fig. 9 and 10 reflect the approximate level of importance that each company places and its trend on the Governance issues in the selected years, with red representing Columbia Sportswear Co and blue representing Patagonia Inc. The frequency of the weighting presented by Columbia Sportswear Co in the bar chart is very similar to that of the previous data on social issues. The ratio concentrates between a few values, but the weight of governance never exceeds 70%. In terms of trends, Columbia Sportswear Co's focus on governance has shown a dramatic but regular downward trend in all periods. Patagonia Inc has also shown a gradual decline, but the trend at Patagonia is much more gentle than at Columbia Sportswear Co.
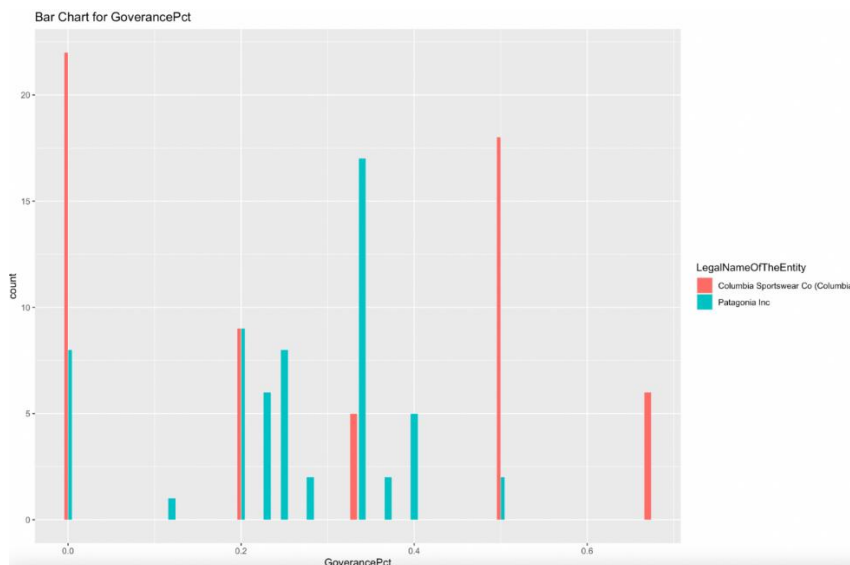
Fig. 9 Bar chart of governance percentage for Columbia Sportswear Co and Patagonia Inc from 2016-2020
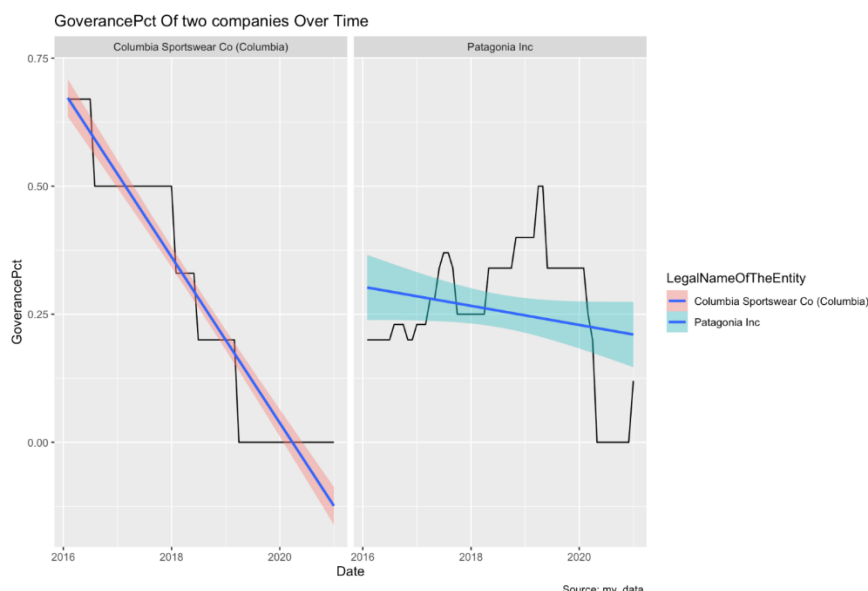

Fig. 10 Line chart of governance percentage for Columbia Sportswear Co and Patagonia Inc from 2016-2020

Fig 11 is a trend graph of the sales of these two companies for consecutive years, with red representing Columbia Sportswear Co and blue representing Patagonia Inc. Fig. 11 indicates that the sales of Columbia Sportswear Co are steadily increasing from 2016 to 2019 compared to the previous year. However, by 2020, sales suffered from a major hit and had fallen even close to the 2016 level. In conjunction with the other data circumstances mentioned previously, Columbia Sportswear Co underwent a dramatic change in 2020. Their weighting of RepRisk metrics, the value of the current RepRisk Index, and sales have all been impacted. Highly probable speculation is that the change resulted from the pandemic because, in April 2020, Columbia Sportswear Co provided COVID-19 Business and Financial Liquidity Update. This message includes statements to withdraw the first half and full-year 2020 financial outlook, as well as temporarily suspending quarter dividends. Withdraws First Half and Full Year 2020 Financial Outlook; Temporarily Suspends Quarterly Dividend (2020). The situation with Patagonia Inc is more complicated. In order to avoid the visualization from misleading the readers, the y-axis of both companies is set according to the same level. Although Patagonia's sales look very flat in the chart, in terms of the size of their company, they more than doubled their sales in 2018. One article notes that Patagonia has grown each time it has expanded its

social mission (Beer, 2018). Although the deeper reasons for the phenomenon that sales shrank sharply to less than ten percent of the previous year are not yet clear, their current RepRisk Index has indeed been floating higher during Patagonia's poor sales, representing more negative Social, Environmental, or governing news that Patagonia has faced at that time.

Also, in general, the previous conclusion about Columbia Sportswear Co's risks related to ESG is that it kept decreasing during the past five years because the company has placed more emphasis on and increased its management of ESG year by year. The increased emphasis on ESG has not affected the increase in profits of Columbia Sportswear Co over the years. This may be proof that the investment in ESG does not negatively affect the profit, but rather contributes to the profit growth.
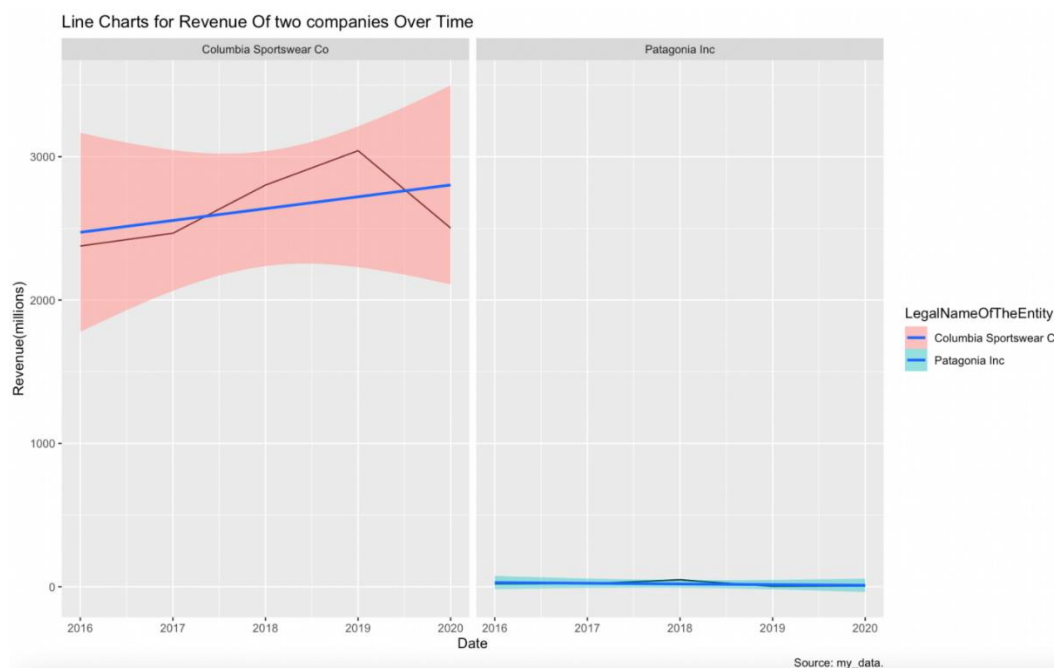

Fig. 11 Line chart for revenue of Columbia Sportswear Co and Patagonia Inc from 2016-2020

4. Conclusion:

After looking into various types of the RepRisk Index records and sales data over time, the most surprising finding is that even though the brand position is similar, two companies can actually implement completely different metrics when considering factors except economic performance. Throughout the research, the acquired types of data are still limited to making further statements about where there is a causational relationship between company sales and its RepRisk Index. However, by comparing the sales and trends in the RepRisk index, an important finding that is somehow in line with the previous hypothesis is that a company's sales indeed have some connections with the current Reprisk index, since both companies in the research reflect a sales decrease when there is an unstable or changing phase of RepRisk. The business suggestion based on this finding is that companies are expected to stabilize their RepRisk Index over time while making adjustments to the weightings of three categories in RepRisk based on the sales of the company in the corresponding physical year. And for Reprisk, that is, ESG, the attention and investment in ESG do generate some costs, but from the analysis, there is not much conflict between growth in this area of ESG and profit growth. Salesforce is an example, It's a leader in the technology field, and it's also a big contributor to the corporate philanthropy field. The company has taken its 1-1-1 philanthropic model of giving 1 percent of its products, 1 percent of its equity, and 1 percent of its employees' time to the community and nonprofit sector. The company's revenues keep growing, and Salesforce has become a prime example of how profitability and social impact initiatives don't have to be at odds with each other. (Gavin, 2019) More broadly, it is crucial for a business, regardless of its size, to take social responsibility into account and operate with sustainability concerns.

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