

“ESG-driven approach to managing insurance companies’ sustainable development”

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ESG-DRIVEN APPROACH TO MANAGING INSURANCE COMPANIES' SUSTAINABLE DEVELOPMENT

Abstract

Environmental, social and governance criteria (ESG) are considered to be the main factors in measuring the sustainability and ethical impact of companies. This article focuses on comparing the ability of insurance companies to use an ESG-driven approach to managing their sustainable development. The study is conducted using comparative analysis, statistical analysis, and a case study method. The study compares six ESG Ratings on four main criteria (dependent variables, independent variables, scale type, sample), that allows choosing the most appropriate rating for the analysis of insurance companies. As a result, 156 insurance companies are compared by the level of ESG risk (low ESG risk – 24 companies, medium ESG risk – 111 companies, high ESG risk – 21 companies) and by geographical affiliation (26 countries) using descriptive statistics. The assessment of effectiveness of the ESG-driven approach to managing sustainable development of insurance companies is carried out on the example of 16 companies by comparing their non-financial reporting (the sample is selected based on of the annual report for 2019-2020). The study identifies the most common guidelines for report development, as well as components of the ESG-driven approach: environmental (waste and pollution, climate change, energy efficiency), social (workforce and diversity, customer engagement, communities), governance (code and values, reporting, risk management). The study systematizes the best practices of insurance companies for applying the ESG-driven approach to manage their sustainable development and highlights the need for insurance companies to improve their reporting and disclosure practices related to the development of the ESG-driven approach.

Keywords insurance, sustainability, ratings, risk, non-financial reporting

JEL Classification G22, Q01

INTRODUCTION

Insurance companies have the potential not just to create guarantees to minimize risks for their customers, but to develop society and to invest in its sustainable development. At the same time, insurance companies are directly dependent on the trust and loyalty of customers. Therefore, the building of relationships with customers and reputational risks management are the basis for sustainable development of insurance companies. However, insurance companies, as investors, are exposed to significant financial risks from the decline in the value of the companies in which they invest, due to environmental, social and governance risks (ESG).

It should be noted that ESG criteria are considered to be the main factors in measuring the sustainability and ethical impact of companies. At the same time, the COVID-19 pandemic has increased the risk component of most companies in different industries and radically changed the needs, habits and expectations of both customers and employees of insurance companies. According to the survey conducted by Deloitte's Center for Financial Services (2020), 48.0% of in-



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insurance companies were completely unprepared for the crisis, while only 25.0% of companies had a clear vision of tactical and strategic actions and decisions. Accordingly, the pandemic showed the weaknesses of insurance companies, their unwillingness to change, emphasizing the need to use new approaches to management and ensure rapid adaptation of insurance companies to market needs. It is in times of crisis when the corporate social responsibility of insurance companies and their understanding of the impact on society should be strengthened, which will make it possible not to lose customers, but to gain new ones by increasing their trust and loyalty to the company.

1. LITERATURE REVIEW

Tanchak and Mykolyshyn (2019) argue that the insurance market's development depends on the state of the regulatory framework, the availability of an appropriate and effective system of guaranteeing payments in the event of an insured event, the awareness of customers about the services of insurance companies, the reliability of insurance companies, training and retraining of insurance companies' employees. Accordingly, the creation of conditions by the state for the development of the insurance market and ensuring state control is the basis for the development of a civilized market, but the most important factors for further success depend on the insurance companies themselves.

The ability of insurance companies to meet their obligations to policyholders on time and in full is important, as the number of catastrophes caused by global warming, industrial activity and terrorism is constantly increasing in the modern world (Porrini & De Masi, 2019). Accordingly, the choice of insurance company by customers depends on understanding the needs of customers, the ability to offer the necessary insurance solutions and programs, as well as compensations in the event of an insured event. This allows to strengthen the trust and loyalty of customers to insurance companies. Selimovic et al. (2020) propose to build relationships with customers based on the 5P concept (purpose, pride, partnership, protection and personalization), because the key performance indicators of insurance companies depend primarily on the quality of services and customer satisfaction. Staudt and Wagner (2018) also emphasize the importance of analyzing the processes of attracting and retaining customers, building their own models of customer relationship management.

At the same time, the ability to establish a dialogue with stakeholders helps building a positive

reputation for insurance companies. Horyslavets et al. (2018) prove the effectiveness of the use of marketing tools (event marketing, insurance museums) to establish the relationship between the insurance brand and the real and potential consumers of insurance products. Based on the rating system, Okhrimenko and Manaienko (2019) proved that in order to improve the reputation, it is necessary to strengthen the role of corporate social responsibility and to take into account the assessment of insurance companies by customers and employees. Accordingly, insurance companies are able to obtain benefits (significant competitive advantages, long-term sustainability and profitability) if they are socially responsible and provide high-quality information through annual reports (Dropulic & Cular, 2019). That is why the corporate social responsibility of insurance companies should be considered as a tool to achieve market leadership (Khovrak, 2017). Taking into account the application of the norms and standards of non-financial reporting makes it possible to communicate with stakeholders and increase the transparency of companies (Kamiński et al., 2020).

The activities of insurance companies are closely related to force majeure (Baranovskyi et al., 2015), so it is extremely important to create appropriate conditions for staff development. Kasych et al. (2020) emphasize the need to develop HR management models due to the shift of emphasis from the goals of efficiency (productivity) to the systemic solution of society's problems. At the same time, customer satisfaction is also an indicator of staff performance (Piljan et al., 2020). Therefore, staff is a key stakeholder in maintaining the sustainable development of insurance companies (Surdu et al., 2020). Trunina et al. (2020) proposed a methodology for assessing, monitoring and forecasting of stability indicators of companies' personnel.

Increasing the complexity of internal and external processes, individualizing the needs and expectations of customers, reducing the life cycle of products and services and increasing the importance of intangible assets in creating competitive advantages of insurance companies require changes in management approaches and development priorities (Gasiorkiewicz, 2020). The analysis shows that the impact of financial and economic factors is considerable as indicated by a significant number of studies on financial security (Khovrak & Petchenko, 2015), profitability and financial stability (Kulustayeva et al., 2020), financial risks and sustainability (Tsvetkova et al., 2019), risks in the field of management and accounting (Trunina et al., 2018). At the same time, environmental, social and managerial factors are beginning to play a significant role. Polinkevych (2017) reveals the impact of organizational culture, personal competencies and social factors on the development of business processes. Glonti et al. (2020) substantiated the impact of social responsibility of corporations on their sustainable development. Polishchuk et al. (2020) have demonstrated the importance of effective communication tools for company management in the context of smart specialization. However, researchers emphasize the need to improve the investment strategies of insurance companies taking into account the Sustainable Development Goals (Kalkabayeva et al., 2020).

That is why ESG-driven approach is actively used in world practice for the development of companies in different spheres. Sherwood and Pollard (2018) quantified the effectiveness of integrating the ESG-driven approach into the investment strategies of both companies and countries. Hubel and Scholz (2020) have shown that strategic risk management ESG makes it possible to ensure sustainable development and additional benefits for investors. Accordingly, the increased attention to full and transparent disclosure of information on the application of the ESG-driven approach (McBrayer, 2018) is a necessary first step to ensure the sustainable development of insurance companies.

2. AIM AND METHODS

This article focuses on comparing the ability of insurance companies to use ESG-driven approach to managing their sustainable development.

The author conducted a study using the comparative analysis (identifying the features of the existing ESG Ratings and identifying the most suitable one for the insurance branch), statistical analysis (groups of insurance companies by ESG risk and countries analyzed by using descriptive statistics) and case study method (the sample was formed as follows: 156 insurance companies representing 26 countries from Company ESG Risk Ratings were checked for non-financial reports in the GRI database; 16 insurance companies were selected for the analysis according to the availability of reports for the period 2019–2020 from 64 insurance companies with experience in developing and providing non-financial reporting to the GRI database). The information base of the study includes three databases (Sustainalytics, SDG, GRI), as well as non-financial statements of 16 insurance companies.

3. RESULTS

Insurance companies are evaluated according to the results of their activities in three areas: environmental protection, social sphere and governance. Different stakeholders pay increased attention to reports and ratings assessing the performance of companies according to ESG, considering the dynamics of such indicators when making management decisions about investment and development of companies. Currently, there are many ESG Ratings Agencies that calculate ratings according to their own methodology (Table 1). At the same time, according to Bloomberg (2020) experts, the end result of such ratings is an assessment of companies' efforts to achieve sustainable development, which can help attract short-term and long-term investments.

The ratings provided by the author give an opportunity to analyze risks and make comparisons with companies in the region or companies in a particular industry. However, only Company ESG Risk Ratings (Sustainalytics) makes it possible to analyze the results of 156 insurance companies representing 26 countries. As of December 1, 2020, insurance companies in the ranking (Company ESG Risk Ratings, Sustainalytics) are divided into three risk groups: Low ESG Risk (24 companies),

Table 1. Comparison of major ESG ratings

Source: Composed by the author based on the websites of ESG Ratings Agencies (2020).

ESG Rating Agencies	Dependent variables	Independent variables	Scale type	Sample
Bloomberg ESG Data Service	S&P Global Ratings: ESG Evaluation	120 indicators are divided into three groups and four subgroups: environmental (greenhouse gas emissions, waste and pollution, water use, land use), social (workforce and diversity, safety management, customer engagement, communities), governance (structure and oversight, code and values, transparency and reporting, financial and operational risks)	100-point scale. Levels of management of ESG-related risks and opportunities: best in class, strong, adequate, emerging, low	Over 13,000 companies
Sustainalytics	Company ESG Risk Ratings	More than 250 indicators are divided into 20 ESG issues	Five risk levels: negligible (0-10), low (10-20), medium (20-30), high (30-40), severe (40-100).	Over 12,804 companies
ISS	ISS-Ethix	Over 200 factors are divided into four pillars: board structure, compensation / remuneration, shareholder rights, audit & risk oversight	From 1st to 10th decile (1st decile indicates relatively higher quality governance practices and relatively lower governance risk)	Over 6,000 companies
MSCI Inc.	MSCI ESG Rating	35 ESG key issues are divided into three pillars and ten themes: environmental (climate change, natural capital, pollution & waste, environmental opportunities), social (human capital, product liability, stakeholder opposition, social opportunities), governance (corporate governance, corporate behavior)	From 0 to 10 scale is divided into 7 equal parts, each corresponding to a letter rating: leader (AAA – 8.571-10.0, AA – 7.143-8.571), average (A – 5.714-7.143, BBB – 4.286-5.714, BB – 2.857-4.286), laggard (B – 1.429-2.857, CCC – 0.0-1.429)	Over 8,700 companies
RepRisk	RepRisk Rating	95 ESG factors are mapped to the UNGC, SASB, and the SDGs	A letter rating from AAA to D	161,750 companies
Thomson Reuters ESG Research Data	S&P Global ESG Scores	Indicators are divided into three groups: environmental (21 criteria), social (19 criteria), governance & economic (28 criteria)	Percentages scale from 0 to 100	Over 7,300 companies

Medium ESG Risk (111 companies), High ESG Risk (21 companies). Table 2 shows the results of the statistical analysis of rating indicators.

The rating of companies in the Low ESG Risk group ranges from 12.7 to 19.9 with an average value of 17.3 and a standard deviation of 2.2. The rating of companies in the Medium ESG Risk group ranges from 20.1 to 29.8 with an average value of 24.6 and a standard deviation of 2.8. The rating of companies in the High ESG Risk group ranges from 30.1 to 35.0 with an average value of 31.8 and a standard deviation of 1.6. Accordingly, the largest coefficient of variation is inherent in the group “Low ESG Risk” (12.8%), but the coefficient of ratings’ variation of all companies in the industry is 19.2%.

The statistical analysis made it possible for the author to determine the results of descriptive statistics for groups of insurance companies in each of 26 countries. For seven countries (Belgium, Finland, Ireland, Poland, Qatar, Spain, Sweden) the value of the standard deviation and the coefficient of varia-

tion is 0, because these countries are represented in the ranking by only one insurance company. Four more countries are represented by only two insurance companies (Austria, Denmark, Italy, Saudi Arabia). The largest number of insurance companies in the ranking are in United Kingdom (21 companies) and United States (39 companies).

The highest value of standard deviation is typical for insurance companies in the following countries: Italy (6.0), France (5.3) and Brazil (4.7), and the lowest value is typical for insurance companies from the following countries: Germany (1.4), South Africa (1.4), Australia (1.8). The minimum value of ESG Risk is observed in one of insurance companies from China/Taiwan (12.7), France (13.1) and the Netherlands (14.7). The maximum value of ESG Risk is observed in one of insurance companies from the United States (34.5), Qatar (34.7), United Kingdom/Bermuda (35.0).

The value of correlation coefficient of indicators Performance by SDG and Mean of ESG Risk for 26

Table 2. Descriptive statistics for Company ESG Risk Ratings, 2020

Source: Calculated by the author based on the data from the Sustainalytics (2020).

Variables	Mean	SD	CV	Min	Max	N
Low ESG Risk	17.3	2.2	12.8	12.7	19.9	24
Medium ESG Risk	24.6	2.8	11.5	20.1	29.8	111
High ESG Risk	31.8	1.6	5.0	30.1	35.0	21
Industry Group: Insurance	24.5	4.7	19.2	12.7	35.0	156
Australia	22.4	1.8	7.8	20.3	24.7	6
Austria	26.2	2.6	10.0	24.3	28.0	2
Belgium	23.0	0.0	0.0	23.0	23.0	1
Brazil	24.7	4.7	19.2	19.9	29.7	4
Canada	24.8	4.5	18.1	19.4	31.2	7
China	25.5	7.0	27.3	12.7	32.8	15
Denmark	23.0	2.5	11.1	21.2	24.8	2
Finland	20.6	0.0	0.0	20.6	20.6	1
France	21.6	5.3	24.7	13.1	32.0	8
Germany	17.5	1.4	8.2	16.2	19.2	4
India	26.9	3.9	14.7	22.5	30.3	5
Ireland	19.1	0.0	0.0	19.1	19.1	1
Italy	23.3	6.0	25.9	19.0	27.5	2
Japan	26.5	2.5	9.4	22.7	29.0	8
Netherlands	18.7	3.0	16.0	14.7	23.1	5
Norway	24.0	4.1	16.9	20.9	29.7	4
Poland	23.5	0.0	0.0	23.5	23.5	1
Qatar	34.7	0.0	0.0	34.7	34.7	1
Saudi Arabia	32.0	3.4	10.6	29.6	34.4	2
South Africa	23.3	1.4	6.0	21.8	24.8	4
South Korea	25.0	2.8	11.4	22.3	29.8	5
Spain	22.2	0.0	0.0	22.2	22.2	1
Sweden	22.8	0.0	0.0	22.8	22.8	1
Switzerland	22.4	3.0	13.4	18.0	26.0	6
United Kingdom	24.1	4.8	20.1	15.3	35.0	21
United States	26.0	3.9	15.0	18.6	34.5	39

countries is -0.6244 , that is, there is a close inverse relationship between the indicators. The correlation field is shown in Fig. 1. Accordingly, countries that contribute to the achievement of the Sustainable Development Goals create favorable conditions for the sustainable development of all market participants, including insurance companies, by spreading the idea of sustainable development and increasing accountability for decisions and actions.

The evaluation of effectiveness of the ESG-driven approach to managing the sustainable development of insurance companies is possible on the example of 16 companies belonging to different countries and groups of ESG Risk (Table 3). The sample included all companies that submitted non-financial reports for 2019–2020 to the GRI

database, the presence of which indicates a high level of awareness and responsibility of companies for sustainable development. It should be noted that such non-financial statements for different years were prepared and provided by 64 insurance companies (41.0%) from Company ESG Risk Ratings (Figure 2). At the same time, there is a tendency toward an increase in attention to non-financial reporting on sustainable development of insurance companies with decreasing levels of ESG Risk: 2.8% of insurance companies with High ESG Risk, 39.6% of insurance companies with Medium ESG Risk, 62.5% of insurance companies with Low ESG Risk compile non-financial statements. The distribution of activities in the formation of non-financial reporting by insurance companies by coun-

Source: Author' calculations based on the data from Sustainalytics and Sustainable Development Report (2020).

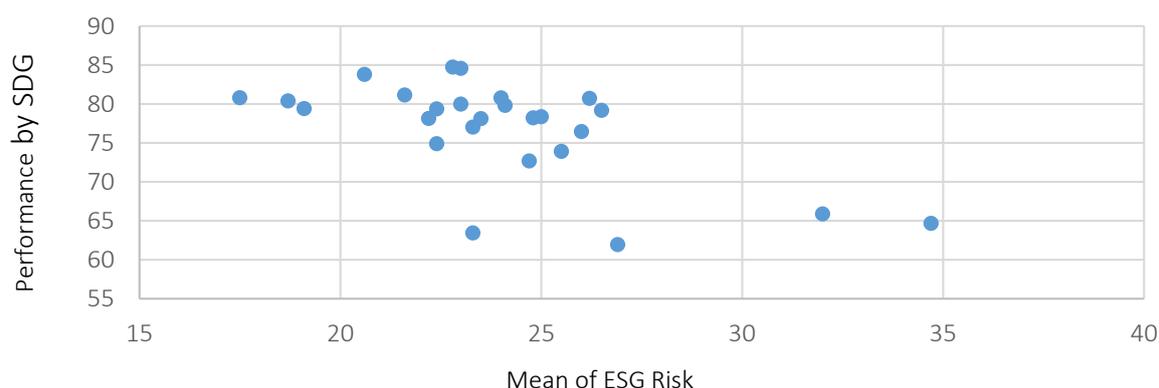


Figure 1. Correlation for 26 countries between indicators performance by SDG and mean of ESG Risk

try differs significantly (Figure 3). For example, 100% of insurance companies in six countries (Austria, Finland, Ireland, Qatar, Spain, Sweden) provide non-financial reporting, 66.7% of insurance companies in Switzerland provide non-financial reporting, 60% of insurance companies in two countries (Netherlands, South Korea) provide non-financial reporting, 50% of insurance companies in six countries (Australia, Brazil,

Denmark, France, Japan, South Africa) provide non-financial reporting.

The low level of activity in the formation of non-financial reporting is observed in insurance companies in such countries as India (20%) and Canada (14.3%). Insurance companies from four countries (Belgium, Italy, Poland, Saudi Arabia) do not provide non-financial reporting.

Table 3. A sample of insurance companies for in-depth study of the effectiveness of the ESG-driven approach

Source: Developed by the author based on the data from Sustainalytics (2020) and GRI (2020) database.

Company	Country	Level of ESG Risk	Reporting period to the GRI database
Allianz SE	Germany	Low ESG Risk/16.2	2005–2019
NN Group	Netherlands	Low ESG Risk/18.5	2005–2019
Sun Life Financial	Canada	Medium ESG Risk/20.1	2010–2019
Prudential Financial, Inc.	United States	Medium ESG Risk/20.6	2011–2019
Sampo	Finland	Medium ESG Risk/20.6	2012–2019
Swiss Re	Switzerland	Medium ESG Risk/20.6	2007–2019
Swiss Life Holding	Switzerland	Medium ESG Risk/21.0	2015–2019
Insurance Australia Group Ltd	Australia	Medium ESG Risk/21.1	2004–2019
Länsförsäkringar AB	Sweden	Medium ESG Risk/22.8	2011–2019
Samsung Fire & Marine Insurance	South Korea	Medium ESG Risk/23.8	2009–2019
MS&AD Insurance Group Holdings	Japan	Medium ESG Risk/24.0	2010–2019
UNIQA Insurance Group AG	Austria	Medium ESG Risk/24.3	2017–2019
Arthur J. Gallagher & Co	United States	Medium ESG Risk/24.5	2018–2020
Voya Financial	United States	Medium ESG Risk/24.5	2013–2020
Dai-ichi Life Holdings, Inc.	Japan	Medium ESG Risk/24.8	2008–2019
Momentum Metropolitan	South Africa	Medium ESG Risk/24.8	2010–2019

Source: Developed by the author based on the data from Sustainalytics (2020) and GRI (2020) database.

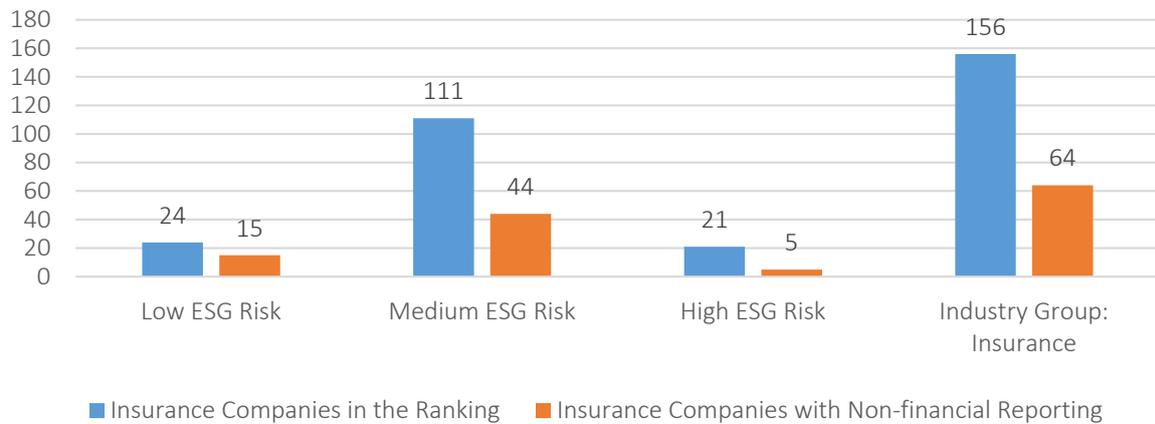


Figure 2. Number of insurance companies from Company ESG Risk Ratings that provide non-financial reporting to the GRI database

Source: Developed by the author based on the data from Sustainalytics (2020) and GRI (2020) database.

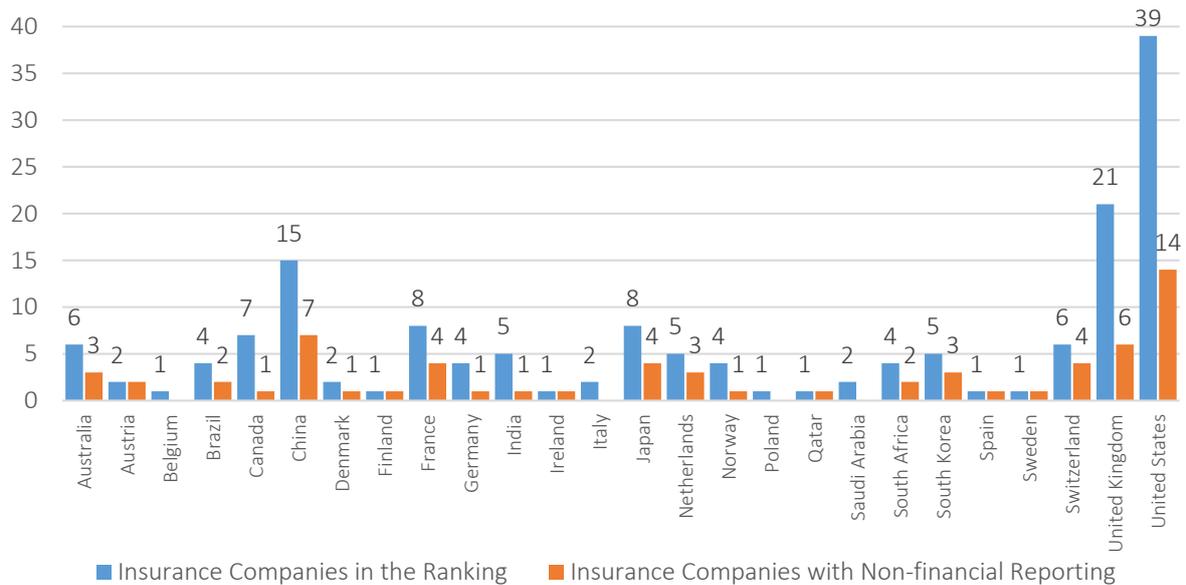


Figure 3. Geographical distribution of insurance companies from Company ESG Risk Ratings that provide non-financial reporting to the GRI database

According to the information presented on the official websites of the companies selected for the study, as well as non-financial reporting on the sustainable development of companies, the author compared the companies based on 14 criteria (Table 4).

According to the results of the analysis of non-financial reporting for 2019–2020, 93.8% of insurance

companies provide information on promoting the Sustainable Development Goals, 31.3% of insurance companies comply with OECD Guidelines, 50.0% of insurance companies adhere to UN Global Compact principles, 25.0% of insurance companies take into account ISO 26000 standards and 56.3% of insurance companies carry out external assurance of their non-financial reporting.

Table 4. Comparison of non-financial reports of insurance companies

Source: Developed by the author based on the data from GRI (2020) database.

Company	Basic guidelines for report development					Components of the ESG-driven approach									
	SDGs	OECD Guidelines	UNGC	ISO 26000	External assurance	Environmental			Social			Governance			
						Waste and pollution	Climate change	Energy efficiency	Workforce & diversity	Customer engagement	Communities	Code and values	Reporting	Risk management	
Allianz SE	+	+	+	-	+	-	+	+	+	+	-	+	+	+	+
NN Group	+	+	+	-	+	+	+	+	+	+	+	+	+	+	+
Sun Life Financial	+	-	-	-	-	+	+	+	+	+	+	+	+	+	+
Prudential Financial, Inc.	+	-	-	-	+	+	+	-	+	+	+	+	+	+	+
Sampo	+	+	+	-	-	+	+	+	+	+	+	+	+	+	+
Swiss Re	+	-	-	-	-	+	+	+	+	+	+	+	+	+	+
Swiss Life Holding	+	+	+	+	-	+	+	+	+	+	+	+	+	+	+
Insurance Australia Group Ltd	+	-	-	-	-	-	+	-	+	+	+	+	+	+	+
Länsförsäkringar AB	+	-	-	-	-	+	+	+	+	+	+	+	+	+	+
Samsung Fire & Marine Insurance	+	-	-	+	+	+	+	+	+	+	+	+	+	+	+
MS&AD Insurance Group Holdings	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
UNIQA Insurance Group AG	+	-	+	-	+	+	+	+	+	+	+	+	+	+	+
Arthur J. Gallagher & Co	+	-	+	-	-	-	+	+	+	+	+	+	+	+	+
Voya Financial	-	-	-	-	+	+	+	+	+	+	+	+	+	+	+
Dai-ichi Life Holdings, Inc.	+	-	+	+	+	-	+	+	+	+	+	+	+	+	+
Momentum Metropolitan	+	-	-	-	+	+	+	+	+	+	+	+	+	+	+

4. DISCUSSION

The author's analysis of insurance companies by the level of ESG-risk and countries shows that the application of the ESG-driven approach pays more attention to companies from countries that contribute to the Sustainable Development Goals. However, the priorities of this approach's components are different. For example, the most complete non-financial reports of insurance companies reflect examples of such component as "governance", because all companies in the sample provide information about code and values, reporting, risk management. The "social" component is also quite popular, as it is used by 97.9% of insurance companies in the sample. At the same time, it is advisable to draw the attention of insurance companies to the development of projects and initiatives aimed at strengthening customer engagement. Insurance companies in the sample pay the least attention to the "environmental" component, as it is used by only 77.1% of companies. A thorough analysis of non-financial reports of insurance companies in

the sample allowed to identify the best practices for applying the ESG-driven approach to manage sustainable development (Figure 4).

Thus, to ensure the sustainable development of insurance companies it is necessary: to clearly define the mission and values; to identify the main stakeholders, their needs and interests; to ensure a permanent two-way dialogue with the main stakeholder groups; to outline risks and identify ways to minimize and neutralize them; to consider the application of the sustainable development and social responsibility standards defined by the OECD Guidelines, UN Global Compact and ISO 26000; to intensify the implementation of initiatives and projects for all components of the ESG-driven approach (environmental, social, governance); to train staff on the application of the ESG-driven approach; to improve the practices of reporting and disclosure related to the development of the ESG-driven approach; to consider the possibility of applying GRI standards for the formation of non-financial reporting.

Source: Developed by the author based on the data from GRI (2020) database.

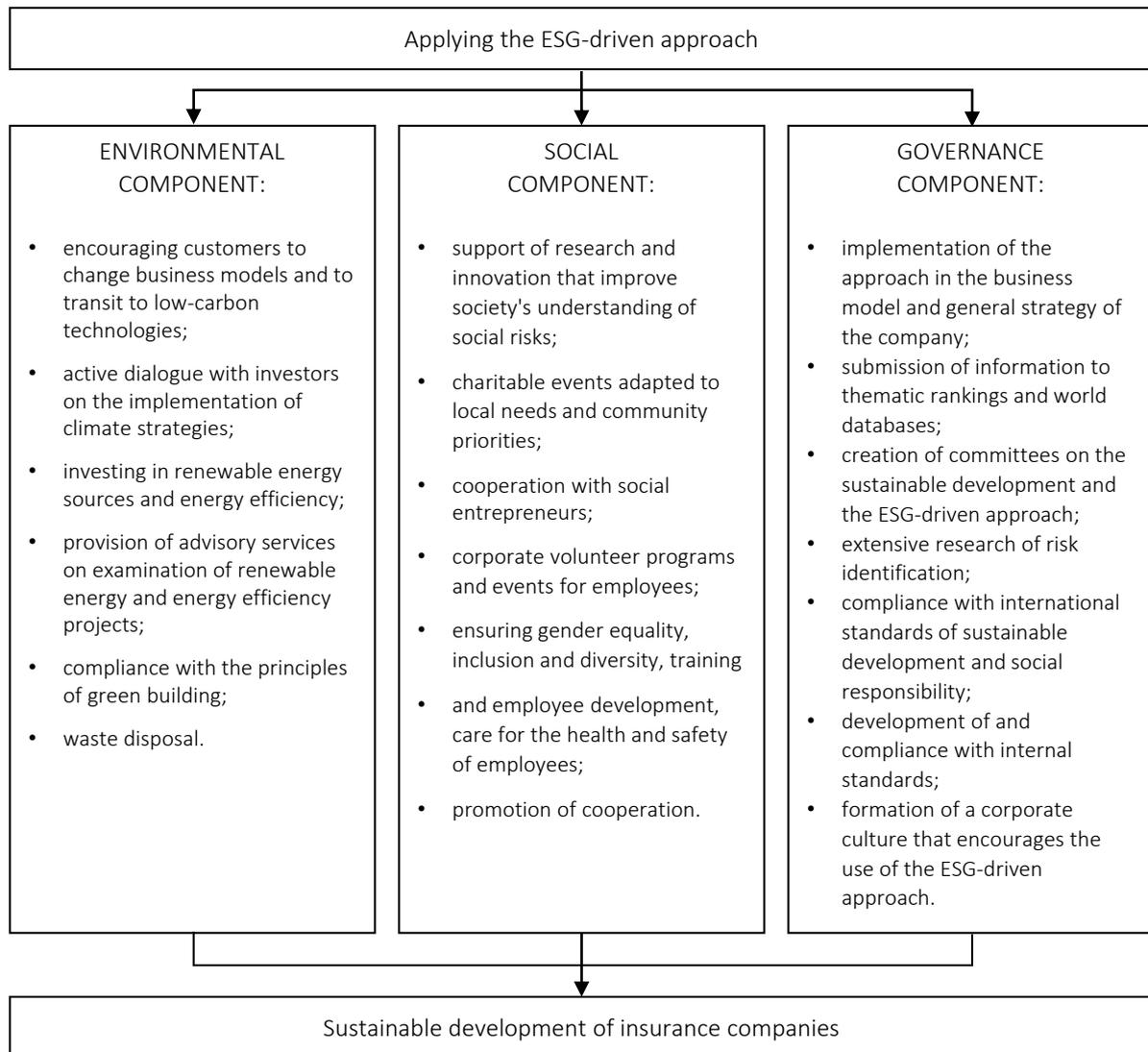


Figure 4. Best practices of insurance companies for applying the ESG-driven approach to manage their sustainable development

CONCLUSION

The paper addresses the issues related to determining the ability and activities of insurance companies to use ESG-driven approach to managing their sustainable development. The results of a comparative analysis of six ESG Ratings according to four main criteria (dependent variables, independent variables, scale type, sample) show that Company ESG Risk Ratings (Sustainalytics) is the most suitable rating for assessing the ability of insurance companies to apply ESG-driven approach to managing their sustainable development. As of December 1, 2020, insurance companies in the ranking are divided into three risk groups: Low ESG Risk (24 companies), Medium ESG Risk (111 companies), High ESG Risk (21 companies). The analysis of data from 156 insurance companies in the ranking made it possible to compare 3 groups of companies and 26 countries in terms of descriptive statistics indicators: mean, standard deviation, coefficient of variation, maximum and minimum value. Subsequent analysis revealed a close relationship between performance by SDG and mean of ESG risk for 26 countries. Accordingly, countries that contribute to the Sustainable Development Goals

create favorable conditions for the sustainable development of all market participants, including insurance companies, by spreading the idea of sustainable development and increasing accountability for decisions and actions. The assessment of the ESG-driven approach effectiveness for the management of insurance companies' sustainable development was carried out on the example of 16 companies by comparing their non-financial reporting. As a result, the most common guidelines for report development were identified, as well as components of the ESG-driven approach: environmental (waste and pollution, climate change, energy efficiency), social (workforce & diversity, customer engagement, communities), governance (code and values), reporting, risk management).

The work is relevant for both researchers and practitioners, as it forms an understanding of the importance of implementing ESG-driven approach in business process management of insurance companies, demonstrates tools for sustainable development of insurance companies and confirms the need for insurance companies to improve the practices of reporting and disclosure of information related to the development of the ESG-driven approach.

AUTHOR CONTRIBUTIONS

Conceptualization: Inna Khovrak.

Data curation: Inna Khovrak.

Investigation: Inna Khovrak.

Methodology: Inna Khovrak.

Validation: Inna Khovrak.

Visualization: Inna Khovrak.

Writing – original draft: Inna Khovrak.

Writing – review & editing: Inna Khovrak.

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