Multinationals in the blue economy: Navigating through Sustainable Development Goals

MULTINACIONALES EN LA ECONOMÍA AZUL: NAVEGANDO A TRAVÉS DE LOS OBJETIVOS DEL DESARROLLO SOSTENIBLE

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Abstract

Purpose: to identify which SDGs have been addressed by the main multinational companies of the blue economy.
Methodology: the annual reports of 41 multinationals that carry out activities in the oceans were reviewed. For its analysis, the qualitative research software Atlas.ti was used, where the texts of these reports were analyzed through codes.
Results: the most represented SDGs are 7 and 9. The conclusion was to indicate a lack of alignment between their activities and their impact on the ocean, focusing on activities specific to their sector of economic activity.
Implications: it is important that the MNEBE consider more policies and practices related to the environment, especially due to the nature of their operation in the ocean. The second practical implication is that decision makers in companies can carry out periodic evaluations on the progress of achieving the SDG goals in their activities.
Originality: to study the multinationals of the blue economy and its relationship with Sustainable Development Goals.

Resumen

Propósito: identificar qué ODS han abordado las principales empresas multinacionales de la economía azul.

Metodología: se revisaron informes anuales de 41 multinacionales que operan en los océanos. Para su análisis, se utilizó el software de investigación cualitativa Atlas.ti, donde se analizaron los textos de estos informes mediante códigos.

Resultados: indican que los ODS que están más representados en los ODS 7 y 9. La principal conclusión fue señalar una falta de alineación entre sus actividades y su impacto en el océano, centrándose en las actividades específicas de su sector económico.

Implicaciones: es importante que las multinacionales de la economía azul consideren más políticas y prácticas relacionadas con el medio ambiente, especialmente debido a la naturaleza de sus operaciones en el océano. La segunda implicación práctica es que los responsables de la toma de decisiones en las empresas pueden realizar evaluaciones periódicas sobre el progreso en la consecución de los ODS en sus actividades.

Originalidad: estudiar a las multinacionales de la economía azul y su relación con los ODS.

INTRODUCTION

The objective of this research is to identify which Sustainable Development Goals (SDGs) have been addressed by the main multinational companies of the blue economy (MNEBE). The SDGs are part of the 2030 Agenda for Sustainable Development to "stimulate action over the next 15 years in areas of critical importance for humanity and the planet." This agenda includes 17 SDGs which are "an urgent call for action by all countries- developed and developing- in a global partnership" (Pavoni & Piselli, 2016). Now, the blue economy includes economic activities that depend on the ocean, often associated with other economic sectors such as tourism, maritime transport, energy and fishing activities (Martínez-Vázquez et al., 2021).

Future trends show that economic activities related to the ocean will have very important economic growth (Martínez-Vázquez et al.,2021). The blue economy (BE) is considered vital for the sustainable development of the ocean, and has gained importance in recent years, given that it is almost impossible to address ocean issues without taking sustainability into account (Appiah et al., 2023). Likewise, the relevance of studying MNEBEs is that these companies are very important for the economic and social development of a region

given their size, global reach and market power (Fernhaber & Zou, 2022). The relevance of this research lies in identifying and explaining what the MNEBE are doing to implement the 2030 Agenda, specifically the 17 SDGs that comprise it.

Some literature has addressed the role of BE. At a broad level, the knowledge about BE has been organized into four groups: oceans as natural capital, oceans as ways of making a living, oceans as sources of new ideas, and oceans as good business (Cisneros-Montemayor, 2019; Voyer et al., 2018). These groups represent several approaches to addressing the actions and impact of MNEBE. Likewise, research about MNEBE has discussed the importance of societal and political engagement in questions about the appropriate use of private sector activities in the ocean. Also, several studies have analyzed the interactions between BE and SDGs. The results indicate an important link of the BE to reach some of the SDGs (Lee et al., 2020). This study focuses in connecting three research areas that have been studied for several years, such as multinationals, blue economy and SDGs. The relationship between these three phenomena is very relevant to generate economic development in various regions of the world, as well as to implement strategies that generate a sustainable environment for the oceans.

LITERATURE REVIEW

Blue Economy

Throughout history, the sea has always been present in the economic activities of all civilizations as a resource for food, a means of transportation and a basis for commercial trade (Martínez et al, 2021). According to the United Nations, more than three billion people depend on marine and coastal biodiversity for their survival (Appiah et al., 2023).

In the past few years, the World Bank defined Blue Economy as "the sustainable use of ocean resources for economic growth, improved livelihoods, and jobs while preserving the health of ocean ecosystem (World Bank, 2017). The Organization for Economic Co-operation and Development (OECD) has defined the ocean economy as the sum of the economic activities of ocean- based industries, and the assets, goods, and services of marine ecosystems (OECD, 2016). Some scholars, practitioners, and policymakers have used the term Blue Economy synonymously, to capture international interest in ocean-based economic development, while others have noted a winder range of definitions.

The concept is aligned with economic and trade activities and emerges from a need to integrate conservation and sustainability in the management of the maritime operations. The sustainability aspect makes provisions for the inclusion of activities based on patterns of consumption and replenishment whilst generating lower or no greenhouse gas emissions. This sustainability aspect is also interpreted as sustainability of the oceans, thereby providing feed for both animals and humans (Smith-Godfrey, 2016).

This multifaceted concept is based on aspects of business, economics, the environment, shipping and maritime issues. Blue economy primarily encompasses investment in marine energy, seafood, transportation, eco-tourism and flight recreation transport (Nthia, 2021; Sabela et al., 2022). According to United Nations Economic Commission for Africa, the concept of Blue Economy includes the recognition that the productivity of healthy freshwater and marine ecosystems is the pathway to a water-based economy that enables not only continental countries but also islands and other coastal states to benefit from their resources. The Blue Economy, considered key to sustainable ocean development, has gained such prominence over the past decade that it is almost impossible to address the issue of ocean policy or development without addressing it (United Nations Economic Commission for Africa, 2016).

Table 1. *Blue economy "lenses"*

Lenses	Description
Oceans as natural capital	Focus on conservation objectives.
	Preferred by environmental NGOs.
	Major sectors: Eco-tourism, payment for ecosystem service models, carbon intensive industries (e.g. oil and gas) and deep-sea mining excluded.
Oceans and driver of innovation	Focus on technological for technical fixes, including innovation hubs.
	Preferred by industry and governments and some research institutes.
	Major sectors: All sectors, especially emerging industries like renewables, biotechnology and deep-sea mining.
Oceans as livelihoods	Focus on poverty alleviation and food security objectives.
	Preferred by small developing states, small scale fishing advocates and development agencies.
	Major sectors: small scale fisheries/eco-tourism aquaculture. Precautionary approach to deep-sea mining.
Oceans as good business	Focus on economic growth and employment.
	Preferred by industry, and larger global, economies (EU, OECD, China, etc.)
	Major sectors: All sectors but focus on large multi-national corporations and sectors- shipping, oil and gas, renewable and deep- sea mining.

Source: Voyer et al., 2018

Table 1 shows four lenses of BE. This framework is useful to understand the role of the oceans and their relationships with human social and economic activities. Several studies have used these lenses to understand the BE implications. Some literature recognizes the importance of the MNCs implementing the 17 SDGs (Munro & Arli, 2020). The studies about MNEBE have addressed the importance of some sectors such as fisheries, food, shipping, and oil (Fusco et al., 2022).

In general, the results of MNCs and SDGs shows diversity in findings. These findings have focused on several themes, such as poverty and inequality, energy and climate change, and peace (Kolk et al., 2017). However, maybe because of its novelty as a topic of research (2012), the literature about BE has failed in identifying the specific relationship between MNEBE and SDGs. It is important to note that, in the literature, the concept of "blue economy" is used interchangeably with terms such as "marine economy", "ocean economy" and "blue growth" (Kaczynski, 2011).

Agenda 2030

The 2030 Agenda is a global initiative where all member countries of the United Nations (UN) agreed on sustainable development objectives (SDG) which call for increasing the living standards of the world's population. Specifically, in 2015, 17 SDGs were agreed upon, which are intended to be achieved by 2030 (United Nations, 2024). These replaced the Millennium Development Goals (MDGs) proposed in the year 2000 (Erin et al., 2022). Specifically, these 17 SDGs are made up of 169 goals and around 244 indicators to evaluate their progress. Likewise, the SDGs and their MDG antecedents differ substantially; formulated by small number of countries, MDGs did not fully reflect the reality of all UN member states. The MDGs are focused on developing countries, while the SDGs consider all countries in the world regardless of their level of development (Kumar et al., 2016).

The central objective of the SDGs is to establish a better and more habitable planet by the year 2030. This objective aims to be achieved through social and environmental SDGs. Likewise, the SDGs are considered one of the most effective action plans to address the great challenges of humanity such as climate change, poverty, environmental care and social development (Montiel et al., 2022).

Figure 1. Sustainable Development Goals. Source: United Nations, 2015.

Figure 1 shows the 17 SDGs that comprise the 2030 Agenda. These SDGs encompass economic, environmental, energy, political and educational aspects. As part of the Agenda, an analysis will be conducted to assess progress toward these objectives and their benefit to humanity by 2030.

Now, the literature indicates that the blue economy plays an important role in achieving the SDGs. For example, in terms of poverty reduction (SDG 1), the blue economy contributes to ensuring safe, clean transportation. Another example is SDG 15 (Life on land), where the blue economy is related due to the topics about the security of ports and illegal wildlife trafficking.

METHODOLOGY

This research is qualitative using a content analysis technique. This technique is identified as means of making inferences from texts that are replicable and valid in the contexts of their use (Krippendorff, 2004). As a research technique, it has its origins in the study of mass media in the 1950s (White & Marsh, 2006). Furthermore, this technique interprets the reality through the categories that are extracted from the text of the analyzed documents.

To analyze qualitative data, it is necessary to focus on the words. This study employed ATLAS.Ti software to conduct the analysis. This technological tool can store, manage, query and analyze unstructured data. It also allows the encoding of text documents, photographs, videos and importing data from Twitter (Lopezosa, et al., 2022). The main utility of ATLAS.Ti is to provide greater validity to qualitative research, eliminating subjectivity.

The data collection and processing methodology of this research was structured in three stages:

1. **Sample selection:** The 50 MNEBE were considered in the sample. Of these multinationals, the 2023 annual reports were used, because 2023 is the most recent complete year preceding the study period (September - November 2024). In the first instance, the search included the first 50 MNEBE ordered by sales during 2020 (Virdin et al., 2021) since they are the ones from which the reports for the year 2023 could be obtained. A total of nine MNEBE reports were not obtained, so they were excluded from the study. In the end, a total of 41 multinationals were included in the study. Annual reports are a form of communication for companies, this makes narratives and disclosures of ways to understand the direction of companies (Dalwai et al.,2023).

2. **Code selection:** to start the procedure with ATLAS.ti software. Codes were created for each of the 17 SDGs. The codes are limited to describing the data, so that they can be accessed more easily; that is, they are words that are related to the data that explain it and make it feasible to extract that information in the texts studied. The codes used can be seen in Table 1.

3. **Data processing:** To proceed with the analysis, the automatic coding process was selected; the "paragraph" mode was used in ATLAS.ti. as this feature serves to identify the codes in the paragraphs. Subsequently, each of the 17 codes was used (Table 1), this led to obtaining the three elements that are shown in the results and that work to achieve the main objective of this research, these are: word cloud, table of co-occurrences and code-document table.

The word cloud is used to show the content of the articles in this research through the frequency of the words of the analyzed texts. To purify the word cloud, words such as connectors, prepositions and verbs were added to the exclusion list (Figure 1). Subsequently, ATLAS.ti generated the code-document table (Table 2) to make comparisons within and between the documents studied. Comparisons are made by analyzing the relationship among codes or group of codes or group of documents.

Finally, ATLAS.ti generated the Co-Occurrence Table (Table 3) in which codes that are in the same quotation within the text are searched. Its usefulness lies in identifying which themes are mentioned together or in proximity within a text (Table of co-occurrence codes, n.d.).

Table 2. *Work codes*

Sustainable Development Goals	Code
SDG 1. No Poverty	Poverty
SDG 2. Zero Hunger	Hunger
SDG 3. Good Health and Well-being	Health
SDG4. Quality Education	Education
SDG 5. Gender Equality	Equality
SDG 6. Clean Water and Sanitation	Water
SDG 7. Affordable and Clean Energy	Energy
SDG 8. Decent Work and Economic Growth	Economic Growth
SDG 9. Industry, Innovation and Infrastructure	Industry
SDG 10. Reduced Inequalities	Inequalities
SDG 11. Sustainable Cities and Communities	Sustainable Cities
SDG 12. Responsible Consumption and Production	Responsible production and consumption
SDG 13. Climate Action	Weather
SDG 14. Life below Water	Marine life
SDG 15. Life on Land	Life on earth
SDG 16. Peace, Justice and Strong Institutions	Peace
SDG 17. Partnerships for the Goals	Alliances

Source: Own elaboration.

Table 2 presents the codes used for the analysis. Each code represents the concepts of each of the SDGs. These codes were developed based on their capacity to group most of the specific SDG into one concept, so that ATLAS.ti retrieved the information from the texts more accurately. The codes corresponding to Production and Consumption, Underwater Life and Life on Land were maintained with the same name as their corresponding SDGs (SDG 12, SDG 13 and SDG 14).

The automatic coding process was initiated using paragraph mode in ATLAS.ti. as this feature serves to identify codes in the paragraphs. Subsequently, each of the 17 codes was used (Table 1). This led to obtaining the three elements that are shown in the results and that work to achieve the main objective of this research, these are: word cloud, table of co-occurrences and code-document table.

ATLAS.ti analysis did not locate the Responsible Production and Consumption code that corresponds to SDG 12, so it was omitted from the study. We worked with the remaining 16 codes.

Table 3. *Sample of multinationals companies in the Blue Economy*

Name	Country	Industry
1. Saudi Aramco	Saudi Arabia	Offshore Oil and Gas
2. Petrobras	Brazil	Offshore Oil and Gas
3. National Iranian Oil Company	Iran	Offshore Oil and Gas
4.Pemex	Mexico	Offshore Oil and Gas
5. ExxonMobil	USA	Offshore Oil and Gas
6. Royal Dutch Shell	England	Offshore Oil and Gas
7. Equinor	Norway	Offshore Oil and Gas
8. Total	France	Offshore Oil and Gas
9. A.P. Møller-Maersk	Denmark	Container Shipping
10. BP	England	Offshore Oil and Gas
11. Qatar Petroleum	Qatar	Offshore Oil and Gas
12. Chevron	USA	Offshore Oil and Gas
13.China National Offshore Oil Corporation	China	Offshore Oil and Gas
14.Abu Dhabi National Oil Company	United Arab Emirates	Offshore Oil and Gas
15. Mediterranean Shipping Company	Switzerland	Container Shipping
16. CMA CGM	France	Container Shipping
17. Petoro	Norway	Offshore Oil and Gas
18. Eni	Italy	Offshore Oil and Gas
19. Carnival Corporation & plc	USA	Cruise Tourism
20. Petronas	Malaysia	Offshore Oil and Gas
21. Oil and Natural Gas Corporation	India	Offshore Oil and Gas
22. China State Shipbuilding Corporation	China	Shipbuilding and Repair
23. COSCO Shipping	China	Container Shipping
24. Hyundai Engineering and Construction	South Korea	Marine Equipment and Construction
25. TechnipFMC	England	Marine Equipment and Construction
26. Hyundai Heavy Industries	South Korea	Shipbuilding and Repair
27. Hapag-Lloyd	Germany	Container Shipping
28. Ocean Network Express	Japan	Container Shipping
29. Saipem	Italy	Marine Equipment and Construction
30. Royal Caribbean Cruises	USA	Cruise Tourism
31. Daewoo Shipbuilding & Marine Engineering	South Korea	Shipbuilding and Repair
32. Nigerian National Petroleum Corporation	Nigeria	Offshore Oil and Gas
33. General Dynamics	USA	Shipbuilding and Repair
34. Huntington Ingalls Industries	USA	Shipbuilding and Repair
35. State Oil Company of Azerbaijan Republic	Azerbaijan	Offshore Oil and Gas
36. Sonangol	Angola	Offshore Oil and Gas
37. Maruha Nichiro	Japan	Seafood
38. ConocoPhillips	USA	Offshore Oil and Gas
39. Vår Energi	Norway	Offshore Oil and Gas
40. Inpex	Japan	Offshore Oil and Gas
41. China Shipbuilding Industry Company	China	Shipbuilding and Repair
42. Fincantieri	Italy	Shipbuilding and Repair

Table 3. *Sample of multinationals companies in the Blue Economy (Continuation).*

43. PTT Exploration and Production	Thailand	Offshore Oil and Gas
44. Nippon Suisan Kaisha	Japan	Seafood
45. Pertamina	Indonesia	Offshore Oil and Gas
46. Sinopec Group	China	Offshore Oil and Gas
47. Wärtsilä	Finland	Marine Equipment and Construction
48. Norwegian Cruise Lines	USA	Cruise Tourism
49. DP World	United Arab Emirates	Port Activities
50. Shanghai International Port Group	China	Port Activities

Source: Virdin et al., 2021

Table 3 shows the 50 most important MNEBEs according to their volume of sales. In the sample 26 belong to Offshore Oil and Gas Activity, 6 from Container Shipping, 3 from Cruise Tourism, 4 from Marine Equipment and Construction, 2 from Port Activities, 2 from Seafood, and 7 from Shipbuilding and Repair. Regarding the geographical location of the company headquarters, the sample includes 8 from the United States, 6 from China, 3 from England, 2 from France, 4 from Japan, 3 from Italy, 3 from Norway; 3 from South Korea, 3 from United Arab Emirates and one from each of the rest of the countries in the sample (Mexico, Nigeria, Iran, Germany, Angola, Azerbaijan, Brazil, Denmark, Finland, India, Malaysia, Indonesia, Nigeria, Qatar, Saudi Arabia, Thailand and Switzerland). Of the 50 MNEBE considered, 9 companies were discarded since no annual reports were found on them. Therefore, the final sample consisted of 41 companies.

RESULTS

Figure 2 presents the word cloud obtained with ATLAS.ti. The word cloud is formed by the frequency of the words in the analyzed texts. The word cloud provides an important overview of what is discussed in the analyzed texts.

 In this word cloud research shows that words like "financial", "company", "business", "asset" and "management". These words are more related to company issues. Likewise, from these results it can be identified that among the main words there are no words identified with the SDGs. This denotes that the MNEBEs studied do not consider addressing any or all of the SDGS as a priority.

Likewise, some words related to sustainability such as "climate", "sustainability" and "carbon" appear in smaller size. This indicates that although topics related to SDGs are not among their main options, they are considered to a lesser extent in the annual reports.

Figure 2. Cloud Words. Source: Own elaboration with data from the 2023 annual reports.

Table 4. Table of co-occurrences

		Alliances Gr=46	Economic growth Gr=103	Education Gr=307	Energy Gr=4779	Equality Gr=117	Health Gr=1198	Hunger Gr=3	Industry Gr=1584	Inequalities Gr=5	Life on earth Gr=2	Marine life Gr=5	Peace Gr=19	Poverty Gr=29	Sustainable cities Gr=1	Water Gr=876	Weather Gr=160
Alliances Gr=46	Count	0	1	1	19	0	9	0	10	0	0	0	0	2	0	3	1
	Coefficient	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00
Economic growth Gr=103	Count	1	0	2	34	2	5	1	12	1	0	0	2	2	1	3	3
	Coefficient	0.01	0.00	0.00	0.01	0.01	0.00	0.01	0.01	0.01	0.00	0.00	0.02	0.02	0.01	0.00	0.01
Education Gr=307	Count	1	2	0	53	13	60	2	26	2	0	0	0	8	1	35	1
	Coefficient	0.00	0.00	0.00	0.01	0.03	0.04	0.01	0.01	0.01	0.00	0.00	0.00	0.02	0.00	0.03	0.00
Energy Gr=4779	Count	19	34	53	0	11	129	1	352	1	0	1	1	8	1	176	33
	Coefficient	0.00	0.01	0.01	0.00	0.00	0.02	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.01
Equality Gr=117	Count	0	2	13	11	0	14	2	10	2	0	0	0	3	1	10	0
	Coefficient	0.00	0.01	0.03	0.00	0.00	0.01	0.02	0.01	0.02	0.00	0.00	0.00	0.02	0.01	0.01	0.00
Health Gr=1198	Count	9	5	60	129	14	0	1	86	3	1	1	2	7	0	78	17
	Coefficient	0.01	0.00	0.04	0.02	0.01	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.01	0.00	0.04	0.01
Hunger Gr=3	Count	0	1	2	1	2	1	0	0	1	0	0	0	2	1	2	0
	Coefficient	0.00	0.01	0.01	0.00	0.02	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.07	0.33	0.00	0.00
Industry Gr=1584	Count	10	12	26	352	10	86	0	0	0	0	2	2	3	0	47	17
	Coefficient	0.01	0.01	0.01	0.06	0.01	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.02	0.01
Inequalities Gr=5	Count	0	1	2	1	2	3	1	0	0	0	0	1	1	0	2	0
	Coefficient	0.00	0.01	0.01	0.00	0.02	0.00	0.14	0.00	0.00	0.00	0.00	0.04	0.03	0.00	0.00	0.00
Life on earth Gr=2	Count	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
	Coefficient	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Marine life Gr=5	Count	0	0	0	1	0	1	0	2	0	0	0	0	0	0	1	0
	Coefficient	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Peace Gr=19	Count	0	2	0	1	0	2	0	2	1	0	0	0	1	0	0	0
	Coefficient	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.04	0.00	0.00	0.00	0.02	0.00	0.00	0.00
Poverty Gr=29	Count	2	2	8	8	3	7	2	3	1	0	0	1	0	1	5	0
	Coefficient	0.03	0.02	0.02	0.00	0.02	0.01	0.07	0.00	0.03	0.00	0.00	0.02	0.00	0.03	0.01	0.00
Sustainable cities Gr=1	Count	0	1	1	1	1	0	1	0	0	0	0	0	1	0	1	0
	Coefficient	0.00	0.01	0.00	0.00	0.01	0.00	0.33	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00
Water Gr=876	Count	3	3	35	176	10	78	2	47	2	0	1	0	5	1	0	10
	Coefficient	0.00	0.00	0.03	0.03	0.01	0.04	0.00	0.02	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.01
Weather Gr=160	Count	1	3	1	33	0	17	0	17	0	0	0	0	0	0	10	0
	Coefficient	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00

Source: Own elaboration.

Table 4 shows the co-occurrence table. It identifies the codes that are in the same quotation, and its usefulness lies in locating which topics are mentioned together or in proximity. The results obtained by analyzing the 41 annual reports show that the greatest co-occurrence in energy and industry (. This is relevant given that it could be assumed that the MNEBE, by their nature, would have to be related to other codes, such as water (SDG14) or weather (SDG 17).

Likewise, there are other co-occurrence relationships that also have a high value, these are: Energy and Heath (129), Energy and Water (176), Industry and Health (86) and Health and Water (76).

Table 5. *Code-document table*

	Alliances Gr=46	Economic growth Gr=103	Education Gr=307	Energy Gr=4779	Equality Gr=117	Health Gr=1198	Hunger Gr=3	Industry Gr=1584	Inequalities Gr=5	Life on earth Gr=2	Marine life Gr=5	Peace Gr=19	Poverty Gr=29	Sustainable cities Gr=1	Water Gr=876	Weather Gr=160	Totales
1. Saudi Aramco	0	3	2	127	0	21	0	39	0	0	0	0	0	0	20	4	216
2.Petrobas	0	3	4	101	6	59	0	48	0	0	0	0	0	0	27	4	252
5.Exxonabil	0	4	1	82	0	6	0	45	0	0	00	0	0	0	3	10	151
6.Royal Dutch Shell	2	4	8	494	2	37	0	55	0	0	0	0	0	0	61	7	670
7.Equinor	0	4	2	322	4	35	0	63	0	0	0	0	0	0	17	8	455
8.Total	0	3	15	653	20	178	1	126	0	0	0	1	10	0	89	12	1108
9.A.P. Moller-Maersk	0	4	11	21	0	2	0	49	0	0	0	0	0	0	4	1	92
10.BP	0	4	4	500	1	27	0	67	0	0	0	0	2	0	36	22	663
11.Qatar Petroleum	0	0	0	57	0	2	0	23	0	0	0	0	0	0	30	0	112
12. Chevron	0	0	0	71	0	8	0	11	0	0	0	0		0	2	5	97
13.China National Offshore Corporation	0	3	6	44	3	9	0	20	0	0	0	1	1	0	25	2	114
14.Abu Dhabi National Oil Company	0	5	1	53	3	24	0	11	0	0	0	0	0	0	7	0	104
15.Mediterranean Shipping Company	1	13	6	107	5	31	0	68	1	1	3	1	3	0	37	13	290
17.Petoro	0	2	8	23	5	6	0	31	0	0	0	0	0	0	1	0	76
18.Eni	16	2	20	345	7	91	0	45	0	0	0	2	4	0	98	16	646
19.Carnival Corporation	0	0	0	1	0	4	0	9	0	0	0	0	0	0	2	1	17
20.Petronas	2	11	61	343	4	74	0	109	0	1	1	2	0	0	35	1	644
21.Oil and Natural Gas Corporation	0	7	43	227	1	39	1	76	1	0	0	0	2	0	66	3	466
22.China State Shipbuilding Company	0	0	1	1	1	1	0	1	0	0	0	0	1	0	1	0	7
23. COSCO Shipping	0	1	1	8	0	5	0	45	0	0	0	0	0	0	5	0	65
24. Hyundai Engineering and Construction	0	0	0	19	0	0	0	10	0	0	0	0	0	0	1	0	30
25.TechnipFMC	11	1	3	70	1	30	0	60	0	0	0	0	0	0	14	8	198
27.Hapag-Lloyd	4	4	0	8	0	1	0	25	0	0	0	0	0	0	3	2	47
29.Saipem	2	1	8	241	13	100	0	46	0	0	0	0	0	0	96	4	511
30.Royal Carribean Cruises	1	0	1	6	2	11	0	49	0	0	0	0	0	0	3	6	79
31.Daewoo Shipbuilding & Marine Engineering	0	1	0	8	0	1	0	3	0	0	0	0	0	0	1	0	14
33. General Dynamics	0	0	1	5	0	8	0	16	0	0	0	0	0	0	0	1	31
34. Huntington Ingalls Industries	0	0	4	10	0	17	0	24	0	0	0	2	0	0	3	2	62
35. State Oil Companu of Azerbaijan Republic	0	0	7	53	4	14	0	22	1	0	0	1	1	0	5	0	108
37.Maruha Nichiro	1	0	4	6	0	42	0	22	0	0	0	3	0	0	5	0	83
38. Conoco Phillips	0	0	0	5	0	0	0	3	0	0	0	0	0	0	0	0	8
39.Var Energi	0	2	5	108	4	33	0	57	1	0	0	1	0	0	25	4	240
40.Inpex	0	0	2	2	0	2	0	2	0	0	0	0	0	0	2	1	11
42.Fincantieri	2	0	5	74	9	54	0	55	1	0	1	0	0	0	12	10	223
43.PTT Exploration and Production	2	3	20	220	3	40	0	38	0	0	0	0	0	0	41	1	368

Table 5. *Code-document table (Continuation).*

44.Nippon Suisan Kaisha	1	1	2	11	0	50	0	17	0	0	0	2	0	0	10	1	95
45.Pertamina	0	9	27	94	16	43	1	46	0	0	0	3	4	1	30	0	274
46.Sinopec Group	0	0	7	40	1	4	0	40	0	0	0	0	1	0	6	2	101
47.Wartsila	0	6	6	192	0	54	0	33	0	0	0	0	0	0	33	2	326
48.Norwegian Cruise Lines	1	0	3	9	0	18	0	32	0	0	0	0	0	0	8	6	77
49.DP World	0	2	8	18	2	17	0	43	0	0	0	0	0	0	12	1	103
Totales	46	103	307	4479	117	1198	3	1584	5	2	5	19	29	1	876	160	9234

Source: Own elaboration.

Table 5 shows the results of the number of times that the codes are repeated in the MNEBE reports. The code "Energy" obtained the highest number of times with 4479, followed by the code "Industry" with 1584 times. These results make sense due to the most of the MNEBE operates in the oil and gas industry, these being precisely the ones that employ this code the most, the top 3 companies being Total (653), BP (500) and Royal Dutch Shell (494). Likewise, the code "industry" is mainly used by the companies Total (126) and Petronas (109) in much lower values than those found in "energy". It can be seen that the "industry" code is used to a lesser extent, but it is widely used by all MNEBEs, being the only one, apart from "energy", that is present in all reports.

Is important to mention that the MNEBEs do not consider marine life (SDG 14) like other codes such as energy. This means that studied companies continue to consider that their main activities are related to energy, and at least in the expressed in the reports the marine life is not considered. Perhaps this finding reflects a lack of consciousness about their impact in the oceans environment.
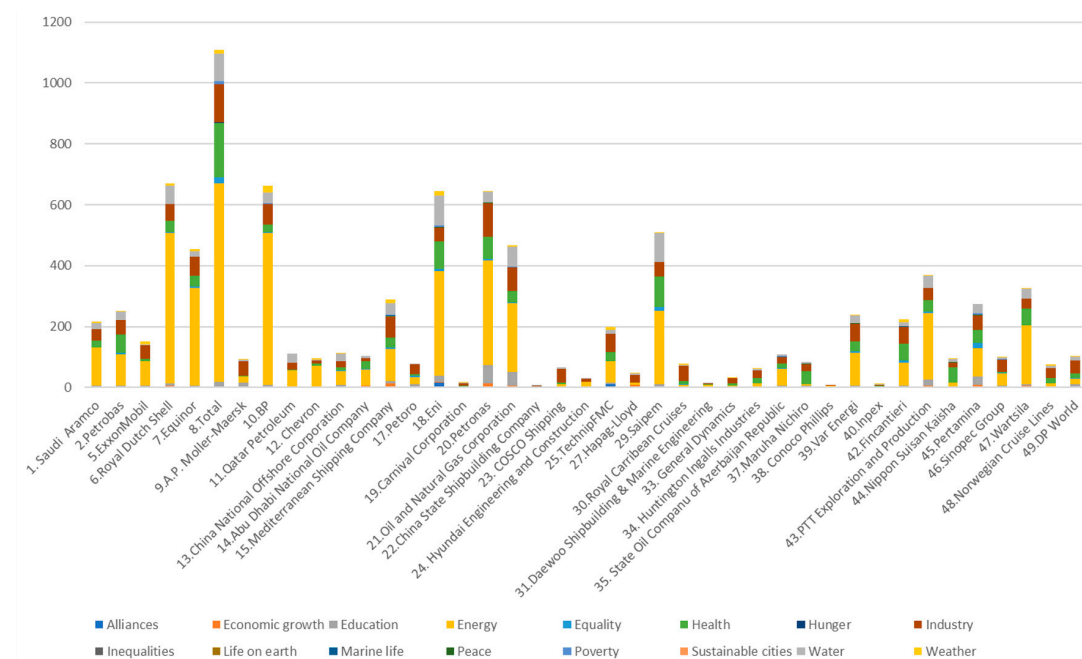

Figure 3. *Presence of SDGs in MNEBE.* Source: Own elaboration.

Figure 3 indicates the presence of the codes assigned to each SDG. As can be seen, the "energy" code is the one with the most presence, this means that the MNEBE take more into account SDG 7 affordable and clean energy. The "health" code related to SDG 3 Good Health and Well-being also has a greater presence. Firstly, these results indicate the importance that the energy sector represents within the sample, with MNEBE being mostly from the Offshore oil and gas sector. But on the other hand, they do not show a relationship with the activities they carry out taking advantage of the ocean's resources. Likewise, the health relationship can occur due to the nature of multinationals, that is, their large size, global reach and their influence in their area of operation. For example, in practical terms some programs and policies related to population health.

On the contrary, it was identified that the low presence of SDGs related to the ocean such as 6 and 14. This may be due to the fact that through other practices they affect marine life, such as the use of alternative energies in their operations. Or, on the contrary, lack of knowledge and awareness about the impact of their activities on the ocean.

CONCLUSIONS

The objective of this research was to identify which SDGs have been addressed by the main multinational companies of the blue economy. The main conclusions in this research indicate a lack of alignment between their activities and their impact on the ocean, focusing on activities specific to their sector of economic activity. This means that the MNEBE studied maintain a logic of economic gain rather than the logic of caring for the environment.

Another important conclusion is that although the annual reports are official information of the studied companies, these reports may be influenced by social trends and policies of the countries of origin, as well as the countries where these MNEBEs operate. Therefore, the information may contain some bias. Accordingly, it is necessary to generate reliable tools for measuring the activities of the MNEBEs and their compliance with the SDGs. Furthermore, the word cloud (Figure 1) suggests that although the MNEBEs reference

sustainability activities, they do not specifically consider the SDGs. The MNEBEs continue to focus on their core business activities.

The main contributions of this research are three. The first is to be able to identify the practices and actions that MNEBEs carry out to address the SDGs. Related to the above, the second contribution is linked to identify the consciousness that MNEBEs have about its activities on the oceans, that at least in this research, the findings suggest a lack of consciousness. At last, the third contribution is related to the applied methodology, where the use of annual reports as sources of information to address SDGs and the use of Atlas.Ti as software of analysis can contribute to obtain novel results.

This study has several theoretical contributions. The general results show that the MNEBEs included in this research are more related to 2 of the 4 lenses (Voyer et al., 2018), they are oceans as driver of innovation and oceans as good business. This implies for the theory about BE a support about the role of MNEBEs in the use of the oceans as source of innovation and support the economic importance of the oceans for the firms, in this case the MNEBEs included in the study. An important implication for the multinationals theory is that the supply sources abroad have been expanded to the oceans, not only in traditional areas such as manufacturing and industries (Dunning, 1980; Johanson & Valhne, 1977), but the findings of this research could also be useful for understanding new reasons for the internationalization of the firms.

Within the main future lines of research, two are identified. The first is to carry out similar research in multinationals other than those of the blue economy, as well as in larger samples and using a greater number of reports. The second line of research is to replicate this research in codes other than those proposed, in order to generate greater evidence of the topic. At last is important to test the theory of internationalization inside the BE activities and MNEBEs operation.

The main implications for practice are twofold. According to the results obtained, it is important that the MNEBEs consider more policies and practices related to the environment, especially due to the nature of their operation in the ocean. The second practical implication is

that decision makers in companies can carry out periodic evaluations on the progress of achieving the SDG goals in their activities.

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