

**COMPARATIVE STUDY OF THE QUALITY OF RISK DISCLOSURES IN
SHAREHOLDERS AND STAKEHOLDER REPORTS BETWEEN
DEVELOPED AND DEVELOPING COUNTRIES
(CASE: OIL INDUSTRY)**

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Abstract

The current global and competitive environment in which companies within the oil and gas (O&G) sector find themselves requires a greater degree of information that allows users to have a better understanding of the companies' economic situation and risks they face. For that reason, there is a need to mitigate negative impacts that affect their activities. The objective of this research is to perform a comparative study between the quality of risk disclosures in shareholder and stakeholder reports of O&G companies, headquartered in developed (Canada, the UK and the US) and developing countries (Colombia, Brazil and Argentina) listed on their local stock exchange for the period 2016-2017; their size and its propensity to follow IPIECA (2015) as a voluntary industry guide to produce stakeholders' reports. Using the quantity of risk keywords as indicative of risk quality disclosures by following Bareta and Bonzolan, (2004) approach. The following findings were encountered: (a) companies based in developed countries tend to disclose high-quality risks in their shareholder reports, however the difference compared to developing countries is not significant due to the accounting globalized principles used. Stakeholder reports quality is highly associated with the adoption of industry-specific voluntary guidelines in both developed and developing countries. Additionally, the findings show that the quality of risk disclosures can also be influenced by stakeholder pressures that cause companies to change their reporting approach, in both developed and developing countries; (b) the size of the company in terms of total assets is not a determining factor that influences the company quality of risk disclosures nor for shareholders or stakeholder reports of the companies in developed or developing country; (c) The use of the voluntary guidelines of O&G (IPIECA), develops and improves risk disclosures quality in the shareholder and stakeholder reports of companies within the industry to enable good practices.

Keywords: Comparison, quality, disclosure, information, risks, reports, shareholders, stakeholders, developed countries, developing countries, oil companies

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Chapter I

Introduction

The growing complexity of strategies, operations and commercial regulations in the corporate context has fostered new trends that emphasize the need for companies to provide a greater volume of information to promote transparency, improve the quality of disclosures and reduce information inequalities. In this sense, the increasing changes in the risk management practices have been helping businesses to reduce these asymmetries and to identify how financial operations affect business performances. Solomon et al. (2000), define risk management as an essential practice to maximize shareholder value, based on the premise that reporting to the market gives companies greater chances of success and supports investment and shareholder decisions. Hence, its importance to reduce information asymmetry between shareholders regarding the company's commercial risk, financial situation and stakeholders about the way in which social responsibility problems are addressed and measured, which generates a broad vision of weaknesses and strengths that allow a more efficient allocation of resources between economic agents and the market.

These changes have meant that the usefulness of the information provided regarding risks to its potential users is increasingly valuable, which entails a greater demand for relevant information and an effort from the regulators to set standards. These, guide companies in how to disclose properly the risks to which they are involved in their business operations. In this way, companies in the O&G sector do not escape from this situation, where opportunities are continually examined to meet the growing energy demand around the world, while mitigating negative impacts that affect their activities. Thus, the need to address the potential risks which have become an essential part of the corporate governance of these organizations and basic elements of the business sphere.

Currently, the growing demand for risk information originates that companies within this sector look to communicate risk from a systemic view, either in voluntary reports or in a mandatory manner; which requires providing transparent and reliable information that involves all levels in the organization, which makes it a key variable to understand the strategic position of the company. That is why risk communication is one of the main information needs in companies (AICPA,

1987; Solomon et al., 2000 and Cabedo and Tirado, 2004). Stakeholders want to understand and participate in the dialogue with these companies about the effects of their activities: the impacts, benefits, risks and compensations. This is done through the annual report to their shareholders and through the sustainability, or corporate social responsibility (CSR), or environmental reports to their stakeholders, which is an important way for companies in the O&G sector to promote informed dialogue between their shareholders and other related parties in the business.

Hence, accounting bodies have issued norms that regulate the presentation of these reports, along with other associations that also have emerged, which guide the dissemination of information in companies, including the G4 Sustainability Reporting Guidelines of the Global Reporting Initiative (GRI) and for the specific O&G sector the oil and gas industry guidance on voluntary sustainability reporting (IPIECA), issued by the World Association of the Oil and Gas Sector, specialized in environmental and social issues, which aim to guide companies to shape the structure and content of their annual and sustainability reports. It can be said that through risk communication, reports become a reliable source of information for firms' stakeholders, transparently describing the greatest challenges, and representing the values of the company by providing to these groups with strategies based on a systemic vision, highlighting the challenges of performance and progress of the company. Also, for shareholders allow assertive decision making and strategic guidance for investors. Both shareholder and sustainability reports provide relevant aspects for their most important stakeholders. While in the United States the focus is on shareholders, countries such as the United Kingdom are reporting to stakeholders, directing them to all groups that affect or are affected by the organization (Freeman, 1984; Klumpes et al., 2014). These reports communicate transparent and timely information regarding the long-term viability of the business (Rossouw, 2015). In this sense, information on risks can help to manage changes (Abraham and Cox, 2007), reduce the cost of capital (Linsley and Shrives, 2001, Linsley and Shrives, 2006), informs about the future trajectory of the model of business (Cabedo and Tirado, 2004) and allows companies to communicate the message that they fully understand their own risks and have developed practices to manage them (Abraham, Solomon and Stevenson, 2007).

As highlighted by Cabedo and Tirado (2007), there is a certain degree of unanimity regarding the need to report corporate risks, although this consensus disappears when discussing whether the publication should be mandatory or voluntary. Nowadays, except for the regulations of financial risks, most of the disclosures are voluntary and according to agency theory, disclosures of voluntary information are essential factors in the decision-making process and can be utilised as a control system over the managers' activities on behalf of shareholders and stakeholders (Jensen and Meckling, 1976). In this line Dobler (2007), analyses the issues related to the credibility of information, which cause a lack of motivation for disclosure. He argues that there are three potential explanations for a more restricted report on risks: (1) executives may not report because they do not have enough specific information about their risks; (2) cannot reveal them with credibility; (3) may retain information due to threats of commercial damages. On his investigation, Dobler (2007) found that more precise risk reporting practices in companies do not necessarily depend on the level of accessible information that executives might have. This is also linked to the commitment of managers with companies' shareholders and their personal incentives to perform a good job, as suggested by the stewardship theory.

On the other hand, Miihkinen (2013) evidences that there is little research on the usefulness of risk disclosures in mandatory annual reports for investors. Although it has been argued that corporate disclosure reduces the asymmetry of information between management and shareholders, it is not known whether investors benefit from high-quality risk information. In its findings it is shown that in a highly regulated risk disclosure environment, the disclosure of risks has a direct negative influence on the asymmetry of information, which causes non-assertive decision making.

Regarding stakeholder reports, Deumes (2008) found that the information on risks is relevant for potential investors, insofar as it helps them to predict the future risks of the company where they plan to invest. Now if this information is not adequate in a transparent and quality way according to the findings of Campbell et al. (2014), Kravet and Muslu (2013) and Cabedo y Tirado (2014), the risk information does not allow users to make future projections of the impact of the risk. Therefore, supplying quality information is a determining factor that allows a successful decision making to stimulate the profitability of the

investment as well as being useful for shareholders and stakeholders. In addition to the inherent unreliability, the Institute of Chartered Accountants in England and Wales (ICAEW, 2011) also noted that in some circumstances, costs may exceed perceived benefits, leading to non-informative disclosures. However, some studies (Linsley and Shrives, 2005; Schrand and Elliott, 1998 and Solomon et al., 2000) have shown that companies do not provide sufficient information, characterized by a lack of coherence, brevity and a focus excessive in past risks (Linsley and Lawrence, 2007; Abraham and Cox, 2007), and with a main focus on financial risks. In the measurement on the quality of the information made by Kalev (2014), on the risks in the financial report, it presents empirical evidences in which the asymmetry of the information and the problem of the agents lead to increase costs whereas when the quality of the information is high, the cost of capital can be reduced. Dobler (2007) argues that disclosure the right information of cost, is aligned with mandatory risk reporting and manager would report what is necessarily strict necessary disclosures in order to comply with regulation and showing the best result for the business. In contrast to the above, it is believed that a better understanding of commercial risks by investors and other users of corporate reports should lead to better companies' management and a more efficient allocation of resources (ICAEW, 2011). This information can be useful for investors to assess the amount, duration and certainty of future cash flows and determine risk profiles, market value and accuracy of the companies in stock price forecasts (Abraham and Cox, 2007; Beretta and Bozzolan, 2004; Helliar and Dunne, 2004; Linsley and Shrives, 2001).

In what refers to the quality of risk disclosures, Beretta and Bozzolan (2004) propose a methodology for measuring the quality of information by companies. The proposal of Beretta and Bozzolan (2004) establishes that the quality of the risk information depends on the quantity of the information disclosed and the richness of its content. On the other hand, Cabedo and Tirado (2009) present a methodology for measuring the degree of disclosure of risk information based on its informative content for the user, rather than on the quantity.

Both proposals have been applied on different companies, the first of the Beretta and Bozzolan (2004), to analyze the quality of the information on risks disclosed by Italian companies was related to corporate variables such as the size in which

in its findings. They find a positive relationship with the level of presentation of information on financial and non-financial risks. In the present study, it is contrasted, if the size is related to the risk information presented by oil companies listed on the stock exchange.

While the risk disclosure index proposed by Cabedo and Tirado (2009) has been used to study the disclosure of risks in the Spanish capital market, the results obtained show that there is no statistically significant relationship between the level of risk information disclosed by companies and their profitability, and what does exist between that level and size. (Cabedo and Tirado, 2014). These studies show that the corporate variable size is a determining factor in the quality of the information provided.

On the other hand, Bravo (2017) in his study on risk disclosures as an effective tool to increase the value of the company, found that risk disclosures on the value of the company are positively associated with the value of the company. In addition, its findings highlight that this partnership is mediated by corporate reputation, which improves the improved practices of disclosure of risks.

This consulted literature is particularly important to understand the quality of the disclosure of information on risks and with it the need for dialogue between the company shareholders and its stakeholders, which is an essential factor to maximize wealth and reduce the chances of sudden changes in revenues, which in the case of oil companies in developed and developing countries highlights the relevance of the value of the reports of shareholders and stakeholders to manage risks successfully and thereby minimize uncertainty.

It also helps to understand the importance of a higher quality in the dissemination of information on risks, information asymmetries are reduced, allowing assertive decision making, while providing useful and transparent information to evaluate the managers performance and adopt economic and political decisions in potential investors. In general, the disclosure of risk information increases financial stability by facilitating the measurement and management of important indicators to achieve the objectives of sustainable development, causing a positive impact on the perception of corporate risks by stakeholders.

In the case of oil companies in terms of stakeholders and shareholders in developed and developing countries, it is required that, given their business

objective, they provide greater accountability regarding the impact of their activities on economic development, social concerns and the environment, instead of just addressing the financial aspects (Noked, 2013), which must provide relevant aspects for its main stakeholders. These reports should communicate information about the long-term viability of the business (Rossouw, 2015), which promotes high-quality corporate governance.

In the last decade, attention has focused on the way in which companies prepare reports for their stakeholders, especially in the field of CSR and its various aspects (Ballou et al., 2005). On the other hand, previous studies show that the predominant model of corporate governance has been applied as a practice mainly for developed countries, where companies seek balance of power using best practices to achieve their objectives (Aguilera et al., 2012, 2014; Muller and Kolk, 2009).

The stakeholder report is a common practice in large companies that seek high visibility and impact on society, improving the communication process of its highlights on specific objectives (Kolk, 2004 and Daub, 2007). However, despite the benefits for investors and the company itself when producing reports from stakeholders, this has not become a common practice in developing countries (Foro de Inversión Social, 2008).

The review of recent developments in national legal systems and relevant international regulatory frameworks is likely to be related to recent surveys of current trends in the form and content of notifications to stakeholders by MNCs. While the KPMG (2013) survey provides evidence that 71% of all MNCs now produce sustainability reports, PCW (2013) states that MNCs are increasingly adopting integrated reports to better meet the information needs of a series of actors. The review of recent developments in national legal systems and relevant international regulatory frameworks is likely to be related to recent surveys of current trends in the form and content of notifications to stakeholders by MNCs. While the KPMG (2013) survey provides evidence that 71% of all MNCs now produce sustainability reports, PCW (2013) states that MNCs are increasingly adopting integrated reports to better meet the information needs of a series of actors. These trends highlight a trade-off between the dimensions of relevance and reliability of the information produced by companies to meet the needs of a wide range of likely users. On the one hand, the preparation of a separate report

stakeholders can provide to the related parties with more detailed information on social, economic and environmental areas, including many disclosures that may not be important in the integrated report. Alternatively, the elaboration of a single integrated report is likely to focus on the content of the impacts of the various forms of natural, human and economic capital, improving the perception of the different MNCs on the various economic, social, governance and economic activities.

The purpose of the research is to determine the quality of risk information of shareholder and stakeholder reports in developing countries such as Colombia, Argentina and Brazil, taking into account that these Latin American countries are in an early stage of adoption of voluntary guidelines, compared to developed countries such as Canada, the United States and the United Kingdom.

From this theoretical framework, taking into account this perception of the need of risk information, and the consequent effect on companies and that these do not provide sufficient information on risks and their management, despite the fact that there are organizations that guide the preparation of these reports to improve the quality of disclosure, for the benefit of stakeholders, it is generated the following question: How will be the comparison of the quality of risk disclosures in shareholders and stakeholders reports in developed and in developing countries in the oil companies listed on the local stock exchange, during the period 2016-2017?.

This question originates the objective of this study which is aimed at conducting a comparative study of the quality of risk disclosures in shareholders and stakeholders' reports in developed and developing countries in oil companies listed on the stock exchange, during the period 2016-2017.

In order to commit with this general objective, the following specific objectives were designed: (a) to analyse the relationship between the quality of the risk disclosures and the companies listing status (location of the O&G companies in developed or developing countries); (b) to examine the relationship between O&G company size and the quality of risk disclosed in shareholders and stakeholders reports; (c) to determine if the quality of risk disclosures of O&G companies that follow the voluntary guidelines IPIECA (2015) for the preparation of stakeholder reports is of higher quality of the ones that do not follow such guidelines.

In order to comply with the proposed objectives, regarding shareholder reports, the framework of Kelliher et al. (2012) was used as a reference, as it provides an integrated classification system for financial risks. In relation to stakeholder reports, the requirements of the IPIECA guide (2015) are analysed, as updated guidelines for O&G sector sustainability risk disclosures. All these in order to determine if there is a high quality and relevant risk information disclosed in both type of reports for O&G companies based in developing countries such as Colombia, Argentina and Brazil; taking into account that these Latin American countries will be compared to developed countries like Canada, the USA and the United Kingdom where exist norms, regulations, guides and along institutions that encourage good quality of risk reporting.

In general, the improvement in the quality of risk disclosures by investors and other users of the shareholders and stakeholder reports should lead to better management of companies and a more efficient allocation of resources (ICAEW, 2011). This information can be useful for investors to assess the amount, duration and certainty of future cash flows and determine the risk profiles, market value and accuracy of the companies in stock price forecasts (Abraham and Cox, 2007; Beretta and Bozzolan, 2004; Helliard and Dunne, 2004; Linsley and Shrives, 2001). All these considering that this issue has received more attention in other countries, such as the United Kingdom (Linsley and Lawrence, 2007; Linsley and Shrives, 2000; Linsley and Shrives, 2005, 2006; Woods and Reber, 2003), the United States (Linsmeier et al., 2002; Roulstone, 1999), Germany (Kajüter, 2001; Kajüter and Winkler, 2003) Italy (Beretta and Bozzolan, 2004) and Canada (Lajili and Zeghal, 2005).

To carry out the research after the introduction, empirical studies were analysed in chapter II that help to understand the problem under investigation; the institutional antecedents referring to the management of risk information, characteristics of developing and developed countries and regulations on the management of risks disclosure. Chapter III review the literature on corporate governance and its relevant theories, that seek to assess why MNCs' managers face incentives to report sustainability information, as well as empirical literature that examines trends and practices in the reporting of Corporate Social Responsibility (CSR).

The proposition system has been designed in chapter IV, which allowed to contrast them based on the arguments of the theories of corporate governance, stewardship, stakeholders, institutional and neo-institutional in terms of quality of information, size of the company and the orientation of companies to use IPIECA as a voluntary guide, are determining factors in the quality of risk reports in developed and developing countries. Chapter V describes the qualitative research methods that have been implemented to evaluate propositions, procedures for selecting the samples used to carry out this research, sources of data collection used, variables used in this research and the construction of the risk disclosure matrix to carry out the content analysis of the reports of shareholders and stakeholders; and finally, the methods used to verify propositions are explained. The primary data was collected using the companies' websites and the secondary resources were collected through online file data and official websites.

A content analysis was carried out, creating a disclosure index that compiles both the volume of information disclosed and its quality in relation to a set of risks that Kelliher et al. (2012) considered to be a shareholder risk, given that its classification evidences a financial bias and relevant disclosures of IPIECA related to environmental, health and safety, and social and economic factors were made to stakeholders. In addition, the study identifies the best practice cases of risk reports that may be of interest to other organizations. This promotes high quality corporate governance, and the findings can be useful in adopting a better approach to risk communication practices among shareholders and stakeholders. Chapter VI report the analysis of the results obtained of the evaluation of the quality of risk disclosures of 10 MNCs in the O&G sector headquartered in developed and developing countries for the period 2016-2017. Chapter VIII contains the discussion of the results previously analysed and finally, chapter VIII the conclusions of the investigation.

Chapter II

Institutional Background

In recent years, substantial changes have been made in the way that risk exposures, its management and monitoring, affect financial operations in the multinational corporations' accountability to their stakeholders, with respect to their financial position and performance. Accounting professionals and risk managers are focusing their attention on the nature of the quality and quantity of risk disclosures. On the other hand, governmental authorities have focused their attention on regulatory aspects and the issuers of accounting standards are increasing the requirements in the way that companies should produce their reports. They are demanding more specific risk and emerging disclosures that are facing actions and abilities to control them to report quality information that is relevant, transparent and useful for their stakeholders. For this reason, different countries and supporting organisations promote regulations and guidelines to encourage companies to report and disclose their various risks in their shareholder and stakeholder reports.

So nowadays in O&G organizations risk disclosures are more focused in developed countries, in contrast with developing countries of LATAM, hence it is interesting to analyse antecedents that are useful to answer the research question: What is the quality risk disclosure information in shareholder and stakeholder reports in developed and developing countries in oil companies?. In this chapter historical background in terms of reports are analysed in section 2.1; section 2.2 provides a brief description of the characteristics of developed and developing countries and their regulations regarding the management of risk disclosure; section 2.3 discusses the legal regulation aspects on risk disclosures; section 2.4 comment on the common accounting standards applied at international level. Finally, section 2.5 explains the main voluntary suitability guides utilised for disclosing risk.

2.1. Historical background on reports

The first indications regarding the implementation of sustainability reports in companies were born in the United States of America and in Europe in the sixties and seventies, due to the state's concern about the responsibilities that

were not fulfilled in the organizations. The first experiments in terms of reports arose with social responsibility reports Sozialbilanz or Bilan social French legal requirement that is practiced since 1977 in France and since 1960 in Holland. This requirement paved the way for the introduction of the environmental report or Ökobilanz in countries such as Germany, Austria, Denmark and Switzerland (Andrew et al., 2011).

In the 1980s, investment funds in the United States and the United Kingdom began to project companies based on their ethical and social performance. In 1989, after the Exxon Valdez accident, the United States Coalition for Environmentally Responsible Economies (CERES) developed the CERES / Valdez principles on behalf of the Social Investment Forum. These principles introduced a strong group of environmental guides to report.

In the early 1990s, UNEP carried out a global comparative assessment of the environmental reporting aspects. Also, in those years the use of this type of report increased. This is summarized in the 1995 report of the company The Body Shop International: "The Body Shop International's first values report, which reported on environmental issues, animal protection and social issues (Haro et al., 2016).

In 1996, CERES and UNEP launched the Global Reporting Initiative to develop guidelines to prepare the report in three lines of action: economic, environmental and social performance. The objective was to raise the level of the sustainability report to the level of an annual finance report. GRI emerges as a multi-organizational organization for those who have an interest in the environment, social and governance aspects and for those organizations that work in the field of accountability, the GRI guides are continually developing the latest version was published in the year 2018.

Some surveys in the nineties, in the Anglo-Saxon world, showed data related to the fact that human resources reports had a greater preponderance than those related to the environment. The foregoing, given that it was mandatory, the environmental report increased due to the fact that more governments focused on industrial pollution and the inclusion of the hazardous materials register as a form of green accountability, as well as the inventory of toxic substances discharges and the control of risks.

Likewise, the development of environmental management standards such as the European Eco-Management and Audit Scheme (EMAS), motivated the increase in accountability that gave rise to the birth of the corporate sustainability report in the nineties, this decade It was known as the decade of transparency, when a series of major accidents forced the preparation of sustainability reports.

The first decade of the 21st century increased transparency and accountability through the reporting of information. However, the second decade has become a moment of mistrust given economic crises and financial scandals which has generated fear in the ability of organizations to self-regulate in terms of accountability. Therefore, the general public has demanded a greater participation of the state in the mandatory accountability through the sustainability reports. That is why there has been a substantial change in the way companies report their financial operations to their various interest groups. In addition, several theories have been developed on management incentives faced by multinational companies to manage their relationships with their stakeholders and their control over sustainable practices and shareholder reporting (Brown and Fraser, 2006).

Different standards and procedures have been created in terms of accountability guidelines and risk information that have been followed by companies around the world, in order to accurately provide fair, understandable and balanced evidence to all parties involved in the process and comply with government regulations (Perrini and Tencati, 2006). In the United Kingdom, the "Companies Act of 2006" established by the Government as part of the regulations of companies, establishes the way in which companies should be constituted and carry out their operations. Likewise, the Public Limited Companies Act of 2001 in Australia, the Companies Act of 1993 in New Zealand and the Commercial Code of Chile, Mexico and Peru regulate the creation and operation of companies. On the other hand, to support this legal basis in order to guide companies in the promotion of high-quality reports, the Financial Reporting Council (FRC), body in charge of establishing the Management Codes and Corporate Governance, (Council of Reports Financial, 2014).

While in the United States the focus is on shareholder reports, countries such as the United Kingdom are focused on reporting stakeholders, addressing them to all groups that affect or are affected by the organization (Freeman, 1984) and in

the developing countries are taking their first steps. That is why, since 2013, the G4 framework has been implemented for the GRI as an international guide to give companies the issues that must be addressed in the stakeholders' report on a voluntary basis. In addition, several countries are beginning to adopt a new form of reporting that takes into account other parties involved in the business process, such as the supply chain, employees and the environment (GRI, 2014). According to White (1999), the Global Reporting Initiative (GRI), creates a global framework for voluntary information about the economic, social and environmental impacts of companies and, gradually, of other organizations. In this line, Larrinaga and Moneva (2002) argue that globalization, the lack of eco-efficiency and the need for comparability and reliability are the main reasons that drove the process of standardization of sustainability reports through an integrated international report. In order to help organizations prepare their sustainability reports and risk communication, their last recommendation was published on October 19, 2016 and valid until June 30, 2018.

Other organizations, such as the International Finance Corporation (IFC), have prepared a series of tips that must be taken into account to develop the stakeholder participation strategy of the corporation. These include methods and frequency for preparing reports and recommendations for the writing of information in terms of format and language.

Among these standards, it is worth mentioning the one selected for the purposes of research and the oil and gas industry guide, guidance on volunteering in sustainability reports (IPIECA). This association was founded in 1974, after the creation of the United Nations Environment Program (UNEP), and is the main communication channel of the industry with the United Nations (UN), having produced more than fifty documents and reports on good practices for the oil and gas sector.

In collaboration with the American Petroleum Institute (API) and the International Association of Oil and Gas Producers (OGP), IPIECA developed guidance on voluntary CSR reporting, resulting in the publication in April 2005 of the guide for the voluntary sustainability report of the oil and gas industry (Oil and gas industry guidance on voluntary sustainability reporting), its latest version being published in 2015. The application in the drafting of sustainability reports in the gas and oil companies in the IPIECA guidelines to issue their sustainability reports has been

governed by the general requirements established by the GRI for the submission of sustainability reports (Haro et al., 2016). In this sense, IPIECA has been aware that the oil and gas sector is a key industry that must be exploited and managed in a sustainable manner, so it was necessary to make a specific supplement for the sector in oil companies in developing countries and developed.

The guide refers to the recommendations on risk communication and its management that stakeholders must know, because oil and gas companies face various risks to their viability through their communication on the most important sustainability issues, those of a reporting company becomes a reliable source of information for their stakeholders. By transparently describing its greatest challenges, reporting underpins the commitment and represents the values of the company in action providing a robust platform to describe the environmental, health and safety impacts and risks of operating in different locations. Once this information is published, it allows for greater communication and commitment with the company stakeholders.

In addition to these guidelines in developed and developing countries, legal regulations have been created that regulate economic and social activities and thus guarantee the efficient functioning of the markets, which generates legal certainty, imminent damages are avoided.

2.2. Characteristics affecting risk disclosures in developed and developing countries

The qualification of developed, developing or underdeveloped countries is determined through the Human Development Index (HDI), a measure used by the United Nations that takes into account five fundamental elements in all countries: life expectancy, the mortality rate, literacy, education and the standard of living in relation to purchasing power, hence there are developed, developing and underdeveloped countries.

The term developing countries refers to the economic development of a country, although it can affect all aspects of the same political, social. Kamal 2009, comment that there are certain country's characteristics that might affect risk disclosure practices which are listed below:

a) The economy of the country: in what refers to developing countries is in a state of transition, between underdevelopment and fully developed economies, also tend to be in a situation of dependence within the panorama of international division of labour. The consequence is that commercial exchanges are subject to the rules of richer countries.

As a consequence, an important part of its resources is usually used to pay interest on debts. This is because the reforms imposed to maintain financing are not adequate to promote sustained growth of the local economy.

b) The commercial relationships: this are usually export of raw material and import of industrialized products. The lower the dependency of foreign industries, the higher the level of development of the country. In the case of the O&G sector crude petroleum and refined petroleum are one the principal resources exported in the sample of developing countries.

c) Country policies: their subsequent development is seriously compromised. In these cases, financial markets are underdeveloped and there are fixed currency exchange rates, public deficit financing that generates inflation, and generalized indexation of both wages and prices.

The policy tends to be unstable, due to its economic dependence on central countries. The internal struggles between different ideologies can prevent a stable and lasting project. On the other hand, if this trend is interrupted and the political situation stabilizes, decisive measures can be taken that benefit or harm economic development. That is to say that economy and politics affect each other, and their interaction is vital for the development of a country.

d) Social factors: poverty is always a central problem in developing countries, because even when development is under way, the economic benefits are not evenly distributed throughout society. In other words, an important sector of society continues to live in conditions similar to those of an underdeveloped country. These sectors may suffer hunger, social exclusion, limitations in access to health services and education.

On the other hand, some of the characteristics of the developed countries that might affect risk reporting are listed below:

a) Elevated Industrialization: Most of the developed countries are highly industrialized; its industry is technologically advanced, thanks among other

things to large investments in the development of technology, which are implemented by both the private and government sectors.

b) Finance: They have stable financial systems, with a prosperous bank that has ample economic resources; this bank invests in different branches, inside and outside the country itself. It seeks to ensure that public and private finances are healthy.

c) High economic development: The developed countries have a high economic growth; this is intimately related to the flow of both domestic and foreign trade, which is quite high in these countries, which is reflected in per capita income, that is, in per capita income that is high compared to income from developing or underdeveloped countries, with an income of more than \$ 10,000 per year.

d) High level of life of the population: Consequence of economic and financial development, as well as trade and industry, and having basic services and others, the income per person is quite high, which allows the population to have of money to make certain expenses buying products or acquiring services, in addition to those that are indispensable for life.

As for the oil industries, in developed countries they are supported by governments for the exploitation of the resources they invest in other countries and exploit their resources, this production being an important part of the income of several of the developed countries. In the case of Latin America, the beginning of the oil industry was in the hands of American and British multinationals during the 70s. The industry had already been nationalized, however, this did not imply losses for the multinationals, because they controlled the technology and the market and maintained a certain presence in the productive process through their participation in joint ventures with governments (Haro et al., 2015).

Based on this division, this research selected to carry out the general objective of the research, 3 developed countries and 3 in development, below it will make a brief description:

The following table illustrates the main country characteristic that affect risk disclosures in developing and developed countries in the sample selection:

Table 2.1
Country characteristic that affect risk disclosures

Developing Countries			
Country characteristic	Argentina	Brazil	Colombia
Economy	\$103,445 GDP per Capita; Inflation of 42.2%	\$360,486 GDP per Capita; Inflation of 2.7%	\$79,347 GDP per Capita; Inflation of 3.3%
Legal System	Civil law	Multifaceted system	Civil law
Cultural Factors	Mainly Western/ Mixed	Mainly Western/ Mixed	Mainly Western/ Mixed
Developing Countries			
Country characteristic	Canada	United States	United Kingdom
Economy	\$340,166 million GDP per Capita; Inflation of 2.4%	\$5,381,455 million GDP per Capita; Inflation of 2.4%	\$553,251 million GDP per Capita; Inflation of 1.8%
Legal System	Common law	Federal system	Common law
Cultural Factors	Western	Mainly Western/ Mixed	Western

Taylor et al., (2010) comment on the importance of understand the social and political environment that link a firm with its different stakeholders. Thus, all these previous characteristics define the companies' decision to report their relevant risk disclosures, as firms consider themselves to be part of the society and look to ensure their survival and growth in the different political and socio-economic environments of each country (Elshandidy et al., 2015). In this sense, DiMaggio and Powell (1983) and Scott, (1995), states that the legal system and political factors are key elements that are likely to affect the firms' choice of disclosure mandatory risk information. Therefore, company's responses to these factors, define whether the company should disclosure mandatory or voluntary information.

Khelif and Hussainey (2016) state that civil law and common law countries have different accounting system attributes and information, including transparency and professionalism for common law countries and secrecy for civil law countries. Additionally, Hooi (2007) on his study found that in banking companies the level of secrecy affects negatively the risk disclosures. Also, Dobler, Lajili and

Zeghal (2011) also argue that the country legal system influences the quality of risk disclosure and its determinants in civil and common law systems.

On the other hand, Chambers et al., (2003) argued that western systems have higher economic wealth than Asian countries. Furthermore, they claim that CSR in western countries have a substantial capacity. This is due to the countries earlier development and is also associated to the ability of companies and governments to generate economic wealth that are used for founding activities related to CSR.

In this line, it can be said that legal systems structure organisations in what matter to voluntary and mandatory risk disclosures in developed and developing countries. While western or developed countries have higher capacity to provide risk disclosures due to the economic and cultural factors that shape organisations.

2.3. Legal regulations on disclosure of risks

For the fulfilment of the purpose of the research, the mentioned developing and developed countries have been selected which carry out oil activities and where the importance of corporate disclosure on risks is vital, which has recently increased due to the current business context, characterized by globalization and the presence of constant changes that lead to greater uncertainty about the future evolution of companies. In addition, financial crises have meant that different stakeholders increasingly demand disclosure of risks.

Therefore, the presentation of risk reports obliges managers to face this information requirement. Despite the duty to disclose these risks, these regulations only require the disclosure of financial risks, and the disclosure of other types of risks, such as strategic, commercial and environmental risks, are discretionary, however, these are also important and their knowledge is essential for shareholders and stakeholders, helping to obtain a greater degree of confidence and improve the knowledge of the company. Therefore, both groups can make more precise decisions and mitigate uncertainty.

Hence, the countries of the research sample and the key regulations that norms economic, social and environmental activities have been listed below, followed by regulations on risk information in the sample selected for the research:

Table 2.2
Key regulations in developed countries

Developing Countries		
Country	Law / Regulation	Field
Brazil	Law No. 11638/2007	Accounting Practices
	Brazilian Accounting Norm (NBC) T 3.7, of 2008	Accounting practices
	Federal Law N6938/1981	Improvement of the environmental quality
	Law Project No. 3613/2008;	GHG emission reductions and associated cost and benefits
	Instruction 480, 2009 from the Securities and Exchange Commission (CVM)	Stock Markets
	Law n° 123/2006	Taxation
	Law No. 12,187 of 29 December 2009	Climate change
Argentina	Law on Industrial and Service Activities Waste Management (Law 25,612)	Waste Management
	Law on National Environmental Policy (Law 25,675)	Environment
	Law No. 27,007, (2014)	Oil and Gas exploration
	Law No. 27430, (2018)	Taxation
	Law No 26,831	Stock Markets
Colombia	Law-Decree 2811 of 197	Renewable resources and protection of the environment
	Law 1943, (2019)	Taxation
	Law 964, (2005)	Stock Markets
	Law 99, (1993)	Environmental and climate change
	Law 1333, (2009)	Environmental crimes
	Law 1314, (2009)	Accounting principles

Table 2.3
Key regulations in developing countries

Developed Countries		
Country	Law / Regulation	Field
Canada	The Canadian Environmental Protection Act, 1999	Pollution prevention and Environment protection
	Greenhouse Gas Pollution Pricing Act	GHG emission
	The Income Tax Act (1985)	Taxation
United Kingdom	The British Companies Act, 2006	shareholder engagement
	The Climate Change Act, 2008	Climate Change
	The carbon reduction Commitment (CRC) of 2010	Energy
	The Environmental Protection Act 1990	Waste and pollution
United States	The Sarbanes-Oxley Act (2002)	Auditing and financial regulations
	The EEO-1 survey	Equal employment
	Securities Act of 1933 and Securities Exchange Act of 1934	Stock markets
	Clean Air Act, (1963)	Air pollution
	American Clean Energy and Security Act of 2009	Energy efficiency
	Global Warming Solutions Act of 2006	Global warming

Given the conditions of the oil activity, it carries out numerous processes that generate direct consequences on the environment, especially atmospheric emissions, liquid effluents and solid and dangerous waste, where its main processes generate an important destruction of biodiversity and contribute to the degradation of the environment. general, for this reason, the need for guidelines, which contributes to the prevention of risks by improving public and private information, and by facilitating the response to situations of crisis and uncertainty.

2.4 Common accounting standards applied at international level:

2.4.1 International Financial Reporting Standard (IFRS)

The IFRS are born in the European Union, these are the answers to the need of capital markets to have a common financial language, product of the globalization of the markets and to be used in 2005, initially applied to listed companies in a stock market. Following the regulations of the European Parliament and its Council, from January 1, 2005, all companies that make public offer of their shares in any stock exchange of the European Union, are required to apply IFRS, this requirement not only applied for the 27 countries of the EU but also to the countries of the European economic zone.

The main objective of IFRS standards is to homogenize worldwide accounting activity through international standards so that all are governed by a single acceptable manual, all in order to obtain information, measurements and recognition requirements related to all the business and economic events that the financial statements have.

These rules should apply to all financial statements in general. As well as any other accounting information that a for-profit institution has. These may have industrial, financial, commercial or other area activities. In this way, customers, investors, the general public and any related person can serve to make the right economic decision. Within IFRS, there are two different rules depending on the length of time that each one has in terms of approval, the interpretation will be different, all the rules that were created and adopted within the time period corresponding to 1973 and 2001 are called NIC (International Accounting Standards). At the same time, they were established by the International Accounting Standard Committee (IASC), which comes from what is now the IASB, whose year of creation was in 2001. From that moment, this entity took over of all NIC standards and developed them under the new name of International Financial Reporting Standards (IFRS). In summary, all the accounting standards between 1973 and 2001 are titled NIC and the current NIFF.

These standards are accepted in different parts of the world. Currently, regions such as the European Union, Hong Kong, Australia, Pakistan, Malaysia, Panama, India, Guatemala, Peru, Russia, Brazil, Argentina, Colombia and South

Africa, among other countries, use this accounting methodology in 2008, approximately a number of 75 nations adopted these regulations (Rivero and Lemus, 2014). The NIIFs are based on principles such as a series of specific guidelines that manage to establish the general or the particular. For this, the NIIF are comprised by the NIIF norms, the NICs and the interpretations of both.

The benefit of using IFRS is to improve the financial information to be compared under the same parameter. In turn, it improves the analysis of credit risk and optimizes business competition, among other actions. IFRSs include:

- International Financial Information Standards (IFRS), International Financial Reporting Standards (IFRS), which range from No. 1 to No. 13.

- International Accounting Standards (NIC), International Accounting Standards (IAS), which range from No. 1 to No. 41; there are some that have been eliminated later.

- IFRS Interpretations Committee (IFRIC), International Financial Reporting Interpretation Committee (IFRIC), which ranges from No. 1 to No. 21.

- Standing Interpretations Committee (SIC), Interpretations Committee of the NICs, which are only valid number 7, 10, 15, 25, 27, 29, 31 and 32.

- Normally the IFRS Standards issued by the International Accounting Standards Board as of December 31, 2017 and required as of January 1, 2018, include extensive cross-references, additional explanatory material and the agenda decisions of the Interpretations Committee of the IFRS issued until December 31, 2017.

IFRS has two models, based on the European Union's IFRS (IASB) and US GAAP's US (FASB) NICs.

US GAAP are the accounting principles generally accepted and used by US companies. to keep the accounts. They are equivalent to the International Accounting Standards (NIC / IFRS) adopted by the European Union. The generally accepted principles (US GAAP) are explained below.

2.4.2. Generally Accepted Accounting Principles (US GAAP)

US GAAP is the name commonly used to refer to mandatory accounting standards for issuers of securities listed in the United States of America. These norms, which continue to constitute a normative frame of reference for many

entities, are currently in the process of convergence with the international standard.

Knowledge of international standards is essential for the auditor because they form the basis of accounting used for the preparation of consolidated information by listed entities, and because as we have said before, it is a basis for interpreting the provisions of the General Plan of Accounting, which to a large extent is conceived as a summarized version of those.

US GAAP are generally accepted accounting principles; they are standards applied to US companies listed on Wall Street. They cover a massive volume of standards, interpretations, opinions and bulletins and are prepared by the FASB (Financial Accounting Standards Board or Financial Accounting Standards Board), by the accounting guild of the American Institute of Certified Public Accountants (AICPA) and the Securities and Exchange Commission (SEC).

It is a combination of regulations authorized by regulatory organizations and accepted accounting methods, so there are many similarities between United States GAAP (US GAAP) and IFRS in terms of the presentation of financial statements under both frameworks. Components of a complete series of financial statements include balance sheet, income statement, other general income basis (OCI); for US GAAP or the statement of recognized income and expenses (SORIE) for IFRS. In addition, the two frameworks require, except in exceptional circumstances, that the financial statements be prepared according to the accounting basis of causation with the exception of the statement of cash flows. The two regulations have similar concepts regarding the requirements on materiality and coherence that entities should consider when preparing their financial statements (Warren Reeve, and Duchac, 2014).

GAAP's objective is to standardize the different financial reports, thus improving the credibility of the same, facilitating the protection and analysis of the investors as well as ensuring compliance with the different accounting principles. The use of GAAP provides uniformity, neutrality, comparability and verifiability to the accounting results presented by the companies, thus helping to analyze them, when presented under homogeneous criteria.

They cover a large volume of standards, interpretations, opinions and bulletins issued by the Financial Accounting Standards Board (FASB). Although they were born with the purpose of being guiding principles, they have become a very extensive set of rules that give a very precise orientation to the users, being characterized because they are very detailed. For this reason, they are much more determining, giving few options, but increasing the comparability of the financial statements.

The similarities and differences that exist in US GAAP and IFRS (IFRS) are very distinctive. In addition, when comparing US GAAP and IFRS it can be determined that the basis of one is determined by rules and the other is based on principles. On the other hand, with respect to the treatment of the transition under IFRS, the rule based on principles, provides less information and contains fewer details compared to rules based on rules.

It can be mentioned that US GAAP relies on three aspects and these according to Rivero and Lemus, 2014): (a) Legal, (b) Economic and (c) Social Accounting System. By contrast, IFRS (IFRS) is an accounting standard based on principle and as such responds to the economic and social needs of a country. As a result, the main differences and objectives between US GAAP and IFRS (IFRS) are economic, legal, political and social.

Regarding the technical differences established between US GAAP and IFRS (IFRS) are indicated as indicated by Rivero and Lemus, 2014):

- The way in which the financial statements are presented in each of the accounting standards,

- Evaluation of the financial position in the Balance Sheet, and Record of the accounting differences in the accounting books. Therefore, the IFRS (IFRS) offers a more accurate judgment and provides an extensive requirements report unlike the US GAAP standards. (Warren, Reeve, and Ducháč, 2014).

The differences between US GAAP and IFRS (IFRS) are associated with the behaviour of financial reports. In addition, the NIC (IAS) 1 refers to the presentation of the financial statements but does not prescribe specifically the presentation of the same. On the other hand, several reporting formats have been created to evolve the practice of reports in the configuration of the two accounting standards.

In terms of the disclosure of the information in the financial notes, IFRS (IFRS) requires that the data related to the currency must be included in the financial notes. On the other hand, US GAAP does not require that public trading companies in the United States include the currency in financial reports, since it is understood that the company reports in US dollars.

In a globalized world, being guided by the parameters of international financial management is one of the challenges that successful companies assume, because they make their finances understandable, no matter what country it is developed or not developed, because it allows achieve an increase in reliability in the investors.

2.5 Voluntary Sustainability guidelines

2.5.1 G4 Sustainability Reporting Guidelines (G4 Standards)

The G4 standard is a suggested international integrated report developed by the GRI with the purpose of helping organizations to prepare their sustainability reports, published on October 19, 2016 and valid until June 30, 2018. This guide has been developed by a stakeholder process that involved the participation of business representatives of companies, auditors, workers, civil society, financial markets and experts in different fields together with several government agencies and regulators in several countries.

In addition, in the G4 the standards have been prepared in accordance with documents related to internationally recognized reports (GRI, 2016). The sustainability guide is presented in two parts. The first part is constituted by the principles and standards. This includes disclosures of standards, principles and reporting criteria that companies must implement to prepare their sustainability report in accordance with the guidelines. This guide includes the following sections:

1. The first section explains to readers how to prepare and structure the sustainability report using the guidelines in an interactive way. The preparation of this report focuses on the identification of material aspects based on the materiality principle.
2. The second section refers to the criteria that the company must apply. It offers two options to help companies prepare their sustainability report according to the guidelines. The core option includes the fund against a signature of environmental disclosures, governance, social and economic performance. On the other hand, the integral option requires developing disclosures of additional rules on the governance structure, strategy, analysis and ethics and integrity of the company from the central option, as well as informing all indicators of material aspects.
3. The third section indicates the standard disclosure reports through reference use, indicating how the information already disclosed in other reports prepared by the company has to be informed.
4. Section four defines and explains all the principles that the organization must apply when preparing its sustainability report. The principles that define the content of the report include the inclusion of the stakeholders; content of

sustainability, materiality and completeness. The principles that define the quality of the report encompass balance, comparability, accuracy, timeliness, clarity and reliability.

5. The fifth section describes the different disclosures of standards that can be used to produce the sustainability report. This includes disclosures of general rules and disclosures of specific rules. Table 2.4 shows the general and specific disclosures described in this section:

Table 2.4

General and specific G4 disclosures

Disclosure of general standards	
Strategy and analysis	G4-1 and G4-2
Organizational Profile	G4-3 to G4-16
Material aspects identified and borderlines	G417 to G4-23
Stakeholders engagement	G4-24 to G4 27
Profile report	G4-28 to G4-33
Governance	G4-34 to G4-55
Ethics and integrity	G4-56 to G4 58
Disclosures of specific standards	
Disclosures on Management Approach	G4-DMA
Economic	G4-EC1 to G4-EC29
Environmental	G4-EN1 to G4-EN34
Social	G4-LA1 to G4-LA16
Human Rights	G4-HR1 to G4-HR12
Society	G4-SO1 to G4SO11
Product Responsibility	G4-PR1 to G4-PR9

6. Section six explains the quick links in relation to the different areas that need to be informed. This includes the relationship between the integrated reports and the sustainability report; external assurance; standards related to risk, strategy and opportunities; sector disclosures; Principles of the United Nation, 2000; guidelines for MNEs, 2011; links with the guiding principles of the UN for human rights, 2011 and process to define the content of the report.

7. The final section defines the key terms used in the guide.

On the other hand, the second part of the sustainability guidelines explains how to apply the reporting principles to prepare this sustainability or stakeholder report, as well as how to interpret the guidelines. This includes defining the content of the report and the quality of the report. In addition, this G4 standard includes the description of general standard disclosures and specific standard disclosures, explaining the appropriate use; description, relevance and link of each standard.

2.5.2 Guidance of the oil and gas industry on voluntary sustainability reports (IPIECA)

The global association of the oil and gas industry for environmental and social affairs (IPIECA) is a non-profit organization that encourages industry-related companies to continue to improve environmental and social problems. This organization together with the International Association of Oil and Gas Producers (IOGP) and the American Petroleum Institute (API) developed a voluntary guide to support oil and gas industry companies to achieve their goals while working to improve energy, climate and environmental issues (IPIECA, 2015). The main objective of this guide is to help companies improve the structure of the report of their stakeholders by addressing voluntary initiatives, as well as mandatory sustainability reports in certain countries.

As the oil and gas sector is essential in today's world, since it provides fundamental raw materials and energy for global development, it is an industry that constantly seeks for innovative solutions to adapt to new challenges. This implies continuous changes and improvements that require investment and changes in the infrastructure, processes, technology, health and safety of the local community and the environment. The orientation of oil and gas in voluntary sustainability reports lead companies to the benefits to communicate the industry risk most relevant sustainability issues, becoming transparent and reliable.

As a dynamic and innovative sector, the industry constantly seeks to adapt to new situations and challenges. It invests not only in the search for new oil and gas, but also in facilities, infrastructure, technology, local communities, health and safety, and the environment. The sector continually examines opportunities to meet the growing demand for energy worldwide, while seeking to mitigate

impacts of its activities, as well as addressing the potential risks associated with climate change.

Therefore, it is not surprising that many people and organizations around the world want to understand the oil and gas business sector and participate in dialogue with companies about the effects of their activities: the impacts, benefits, risks and compensations. In addition to the annual reports on financial performance and other communication initiatives, sustainability reports also known as corporate citizenship, corporate responsibility or environmental, social and governance reports (ESG): it is an important form of companies in the sector to get involved with the stakeholders and help foster informed dialogue.

The guide has been developed to share good practices throughout the industry and to encourage companies, both current and new, to keep their stakeholders informed and thereby obtain business benefits. Through communication in its most important sustainability issues, the report becomes a reliable source of information for its stakeholders.

The IPIECA guide presents a detailed description of all the indicators, providing information on the purpose, scope and how the indicators should be obtained, and also describes the various terms and expressions related to the sector, is based on general principles of reporting. They include the relevance, transparency, coherence, integrity and precision that all informants must provide as a basis for good practice at the time of reporting. The second section of the guide describes the information process and explains the different steps to follow when producing the reports and that are listed in Table 2:

Table 2.5

Steps to follow to generate reports from stakeholders

Step one	Articulated strategy and strategy	Define the concept of sustainability of the company, the state of the company's vision and explain the strategy to be followed by the company
Step two	Describe governance and management systems	Describe the governance of boards, including roles, the frequency of meetings and the relationship of any member with sustainable problems. Additionally, this step describes the management systems

		applied in terms of principles, values and commitments of the company's policy.
Step three	Determine and prioritize material problems to inform	Identify and prioritize sustainability issues based on a materiality assessment. This step also confirms the coverage and review of the problem and reflects the materiality process in the context of sustainability.
Step four	Select indicator	Selection of indicators based on identified materiality problems. These are customized indicators relevant to the oil and gas industry that inform key issues. In addition, this stage defines the data that will be gathered within the organization.
Step five	Analyse data and incorporate them into the narrative	Evaluates the data obtained from the previous section and explain the progress of the company based on the established objectives, as well as any possible variation related to performance.
Step six	Provide Assurance	Provides opinion of the sustainability content, showing the quality of the information reported and the general reporting principles application. Companies generally have internal and external audit mechanisms in order to assure, verify and enhance the credibility of the reporting process.

In addition, the guide suggests companies that explain their greatest challenges to involve their stakeholders in the reporting process, as well as advising companies on how to manage their environmental, safety and health risks, and their socio-economic impact (IPIECA, 2015) and establishes the guidelines that should be considered in the preparation of reports in a more complete and detailed than the GRI guide.

Regarding the differences with the GRI, it can be pointed out that IPIECA's mission is the development and promotion of efficient technical solutions, social and economically acceptable practices, in relation to the environmental and

social aspects of the petroleum industry. The current version of the guide is from the year 2015 it has been found that there are several similar indicators in the environmental issue in the two methodological proposals of the GRI report, IPIECA.

However, the proposal of the GRI is broader, on the one hand, there are the general indicators for all the companies and on the other the sector supplement, but the IPIECA guide establishes the guidelines that should be considered in the preparation of the reports in more complete and detailed than the GRI guide. The IPIECA guide also presents a detailed description of all the indicators, providing information on the purpose, scope and how the indicators should be obtained, and also describes the various terms and expressions related to the sector. In summary, the two guides are complementary and essential to help oil companies in the disclosure of their sustainability information.

Chapter III

Literature review

The objective of this chapter is to analyse and critically evaluate the relevant theories in the disclosure of risk applied in the context of corporate governance and corporate social responsibility (CSR), to generate reports of multinational companies (MNCs) of shareholders and stakeholders to inform businesses about the prevention of risks in your reports. This chapter is divided into four sections. The literature review begins with section 3.1, which focuses on Mandatory and voluntary disclosures and its principal theories. Section 3.2 of this section explains risk as a form of communication, providing evidence about research on quality determinants. Section 3.3 argues the different forms of risk reports that can be elaborated by MNCs. Finally, section 3.4 analyses the empirical studies that discuss the quality of risk disclosures and the different companies' characteristics studied.

3.1 Mandatory reporting and voluntary disclosure

Mandatory reporting and voluntary disclosure of information has become an important and frequent way for companies to inform their stakeholders of the administration of available resources. In recent years, a growing number of companies have voluntarily disclosed information on environmental, political, risk, social and governmental aspects. Even when they are not obliged to do so, many companies choose to disseminate useful information to evaluate their future prospects, thus avoiding that they consider that they hide unfavourable information and differentiating themselves from companies that do not manage this information well. However, disclosing information can be costly, so companies only disclose private information when they believe that the benefits they extract, exceed the direct and indirect costs of disclosure.

With the publication of the main organizations of norms or specific recommendations in the area of information disclosures, there have been several the authors who worry in studying the degree of fulfilment with the exigencies of spreading contained in the norms, or with the impact caused by the obligation to adopt a certain standard. Thus, Alves (2005) conducted an analysis of the degree of compliance with the recommendations of the Basel Committee on operational risk, relative to the largest banks in Brazil and nine US and European

banks, identifying an increase in the level of disclosures in the years 2003 to 2004, to both in Brazil and abroad, and the US banks, as well as the Europeans disclosure more information than the banks in Brazil.

One of the main debates on CSR revolves around whether public or private companies should be obliged through laws to prepare sustainability reports or reports, so that they report on their impacts, practices and commitments in matters of governance, environmental care environment and social impact. In the public sphere, engaging state companies in the preparation of sustainability reports implies, on one hand, assuming a leading role on the road to good corporate governance, caring for the environment, zero tolerance for discrimination, good treat of staff, decent wages and possibilities for sustainable development

On the other hand, it supposes adopting, on the part of the States, an exemplary role, implementing a policy that promotes transparency and accountability in the private sector. In both cases, it is a matter of thinking about final products as goods or services, not as the results of economic processes that lead to covering other needs, but rather the ways in which that productive process takes place, and the social qualities that are being developed that from they depends.

In the private sphere, more and more are the countries in which annual sustainability information is mandatory. In Denmark, large companies must issue sustainability reports or account for why they do not. The same happens in South Africa with the companies listed on the Johannesburg Stock Exchange is one of the countries that requires mandatory reports on the risk of the stakeholders. In this respect Ntim, Lindrop and Thomas (2013) conducted a study to analyse the disclosures of corporate risks in South Africa in the pre and post global financial crisis (2007-2008) and obtained as a result that there is a significant positive correlation between the diversity of the board (ethnicity and gender) and the extent of disclosures of corporate risk. They found that some companies are more diverse than others. In addition, the empirical results support the implications of institutional theories and legitimacy in relation to the reputation of the company and its legitimacy before the stakeholders (Ntim and Soobaroyen, 2012).

This obligation to deliver sustainability reports aims to stimulate the integration of social responsibility to the regular management of companies, through reporting

economic, social and environmental management, social variables, such as good relations with unions, customers, suppliers, as well as respect for the environment, are important issues for investors, decision makers and society in general.

However, in relation to the above, there are contrary positions that ensure that CSR policies should not be imposed by legal means but arise from a natural evolution of ethics and practices of social responsibility. The consensus is growing in around the idea that the implementation of active public policies and the demand for social balances will cause firms to increase their sustainable awareness and separate it from an attitude that depends only on the good predisposition and consideration of entrepreneurs.

An empirical study carried out by Elshandidy, Fraser and Hussainey (2015) comparing sustainability reports in Germany, the United States and the United Kingdom. According to the predictions of the neo-institutional theory of cultural and legal values (characteristics of the country) they have a significant effect on the mandatory notification of risks. They also found that Germany, which has a code law that requires significant levels of mandatory reporting compared to the United States and the United States reports are more specific. In addition, Elshandidy, Fraser and Hussainey (2015) concluded that the legal and cultural values of each country should be taken into account to minimize divergence in efforts. In addition, researchers should consider the implications of agency theory, as they should be considered in their voluntary disclosure. Elshandidy, Fraser and Hussainey (2015) predicted and found a positive association between the variations in the mandatory and voluntary risk reports associated with the risk levels of the companies. According to the neo-institutional theory, they suggest that the implementation of accounting standards is more flexible than disclosure risk. 3.1.1. Corporate governance theory

Corporate governance is defined by Brennan and Solomon (2008) as the accepted business practices of public and private organizations that can help them to establish rules to govern their relationship with business owners, managers and investors. In light of this statement, the definition of corporate governance can be derived as the set of rules and other practices that the boards of directors carry out in organizations so that they can contribute

transparency, responsibility and impartiality in the existing relationship between organizations and its stakeholders.

Hence, the rules of good corporate governance can be a key element to increase the value of companies, reduce capital costs and expand the bases in terms of investment. A good and healthy governance structure will create the necessary conditions for making strategic decisions to increase competitiveness and generate value, thereby enhancing the company's attractiveness in the markets.

In this regard, Said et al. (2009) explain the fact that corporate governance policies differ among companies, and also point out that improving the effectiveness of corporate governance can lead to a better report and / or performance that demonstrates the value and importance of corporate governance practices in the preparation of shareholders and stakeholders reports, regardless of their different patterns in different companies, hence it can be said that corporate governance plays a dynamic role in the disclosure of risk and in the presentation of reports, because when organizations do it in terms of quality, it leads to productivity, which makes it possible to achieve organizational objectives successfully.

In this way, the best practices in corporate governance in risk management and in reporting, point out that in addition to serving the interests of shareholders, maintaining a permanent and effective dialogue and encouraging their active participation in company decisions and in satisfying the needs of the stakeholders such as customers, suppliers and employees, among others.

On the other hand, it is found that a good corporate governance is responsible for the integrity of the financial reporting system of the corporation, where managers are responsible for putting in place and supervising the operation of systems that allow the company to produce financial statements that represent truthfully the financial condition of the corporation and allow investors to understand the soundness of its administration, its finances and the risks of the corporation (Buendía, 2004).

In this regard, in relation to risks, it encourages corporations to achieve profitability, which satisfies shareholders and stakeholders, because the changing risk landscape originates how corporate governance principles should evolve in order to respond more effectively and appropriate in relation to uncertainty and risk management, to monitor how they are managing and

responding to failures to avoid errors, hence the need to adopt a broader approach towards the principles of corporate governance to adapt to more diverse situations (Price, 2018).

Affirming the above the Organization for Economic Cooperation and Development (OECD) noted that in relation to corporate governance, practices in regard to risk management should be a new approach to the development of corporate governance principles particularly with respect to reputational risks and that current corporate governance principles have not proven to be reliable during severe financial crises.

Making the change means that the administration would play a supporting role and be involved in the coordination of efforts towards risk management, and would encourage employees to report the risks in their workplace to the managers, who will communicate and coordinate the information that they must address in the reports, which affects their credibility, which creates value in the clients and shareholders.

3.1.1. Stewardship theory

As a reaction to the agency theory, at the beginning of the ninety's stewardship theory emerged (Donaldson and Davis, 1991; Filkenstein and D'Aveni, 1994; Davis et al., 1997; 2004; Lee and O'Neill, 2003 and Waserman, 2006). This perspective is a psycho-sociological vision of corporate governance, which considers managers as good servants of the organization, that is, assumes that the professional managers of any company want to do a good job and act as effective administrators of the resources of the company.

Management theory describes the relationship between the principal and the agent, based on the assumption that managers are encouraged to carry out their activities in an important way (Davis, Schoorman and Donaldson, 1997). Davis and Donaldson (1991) explain that managers under the assumption of this theory, instead of acting as an opportunist administrator, want to do high quality work. This is similar to the agency theory, in which Jensen and Meckling (1976) explain that the operation carried out by the managers / owners of the company can help them in their work. Additional, they explain that managers / owners can be helped to maximize their organizational values, explain the differences that may exist between how managers say they behave and how their behaviour is

perceived by the presidents, as well as with respect to the personal characteristics of those and their perceptions of the situation factors of the corporation itself.

Based on the previous assumptions, one of the most important problems that arise according to this theory is how to manage successful corporate performance. The roots of management theory focus their perspective on psychology and sociological aspects, taking into account the human being has needs to grow personal, affiliation, self-esteem, performance and self-actualization (Arthurs and Busenitz, 2003). This theory mentions that the administrator is a man who should be collectivist and pro organizational, since the manager seeks to achieve the objectives of the corporation. Therefore, the theory of administration is congruent with the interest of the organization.

In this way, Davis, Schoorman and Donaldson points out that stewardship theory is similar to agency theory in terms of the owner-manager relationship and is the result of the behaviour that both choose. Thus, the manager chooses to behave as an agent or as a server based on their personal characteristics and their perceptions about certain situational factors.

Likewise, the principal chooses to create a relationship of one type or another depending on his perceptions of those situational factors (of the environment) and on the personal characteristics of the manager, so in the theory of management assumes that the professional managers of any company want to perform a good job and act as effective administrators of the resources of the organization, in this case, this attitude will be beneficial for the main owners and also for the main manager, their goals and objectives will be achieved by the administrator.

Following this perspective, managers seek protection and maximization of the main wealth by performing the best possible way, in this way functions of the benefits administrator are exploited (Davis Schoorman and Donaldson, 1997). The behaviour of managers is such that the behaviours in favour of the company are more useful than opportunistic and individualistic ones. As this is his thinking, acting according to it and not in a selfish way does not imply a lack of rationality. In addition, while not denying that managers can try to maximize their personal utility; this theory proposes that the "steward" will not depart from the collective interests, since it considers that its objectives are aligned with those of the

company that runs (Lane, Cannella and Lubatkin, 1998). According to Vargas (2000), following this theory, it can be said that managers are more motivated to act as representatives, whose goals are more aligned with those of the owners, principal of the relationship, than with their particular interests (Donalson and Davis, 1991; Davis et al., 1997).

In this theory the key artist will be the steward who performs his work with a high value of cooperation in the company, even though the main agent and objectives are not aligned (Davis Schoorman and Donaldson, 1997). Thus, in corporations the main function of the governing council is not to ensure compliance with the rules and obtain the consent of professional managers, but to work together to improve the performance of the company. The role of the professional manager is primarily strategic, to add value to higher decisions. (Cornforth, 2002, Vargas, 2000 and 2001).

The theory holds that performance variations occur and explain that the effectiveness of an action executed by the manager depends on where it is located in the structure of the organization, hence the business structure factor can be used in the implementation of the strategy for a high corporate performance, thus focusing on cooperative societies it can be said that the main function of the governing council is not to ensure compliance with the rules and obtain the consent of professional managers, but work together to improve the performance of the company and the compliance with organizational objectives. (Davis and Donaldson, 1991).

In addition, with respect to the role of the CEO, the design of the organization will help them achieve a better performance, so that the CEO is able to achieve total authority over their businesses and their position is indisputable and unambiguous. In this situation, power focuses on one person. Therefore, this theory focuses on empowering and facilitating structures, maintaining that the roles of president and CEO will improve effectiveness, producing higher returns for shareholders rather than separation roles between the CEO and president (Davis, Schoorman and Donaldson, 1997).

According to all the above, Stewardship theory has a considerable limitation when it comes to studying the governance of cooperative societies and is that it only takes into account the partners (owners of the company) and the steward (the manager), thus not paying any attention to the other interest groups that

affect or are more or less directly affected by the cooperative society. On the one hand, if the behaviour manifested by the director-managers is closer to the model of the agent or the server, while they are assessed, as possible explanatory variables of such behaviour, a series of personal or psychological characteristics of each of them (needs, commitment and identification with the cooperative and the type of power they employ) and their perceptions about certain situational or sociological factors (specifically the management philosophy and the organizational culture). And on the other hand, the type of relationship that the principal chooses, embodied in the president of the corporate society, based on his perceptions about the behaviour and personal characteristics of the managers.

3.1.2 Institutional theory

The institutional theory has a descriptive orientation considering the institutions as rules of operation of the society, describes the institutions as action of government in the organizational fields. The institutions are focal points for cooperation and with agents and actors they obtain the achievement of their objectives. Institutionalism analyses conflict, power and politics in institutional change. There is cooperation between the public and private spheres, between the administrative and the political.

The basic premise of Institutional theory is that institutions can induce firms to adopt similar strategies in response to regulatory, normative and cognitive pressures derived from institutions (Scott, 2007). This reveals that institutions have proven to have a great influence on social and economic behaviour, although it must be borne in mind that they can be easily ignored by companies (Lee, 2011). Organizations adopt forms of institutionalized behaviour in their effort to increase both their external and internal legitimacy (Scott, 1995). Fombrun and Shanley (1990) argue that the development and retention of institutionalized structures and procedures gives signs of credibility and legitimacy to external audiences.

The central axis of the institutional theory is legitimacy, a key factor for the organization (DiMaggio and Powell 1983), they indicate that companies comply with both the rules and the belief systems that influence their environment, the

basis are the three institutional pillars : regulative, normative and cognitive (Scott, 1995), taking differentiating characteristics.

According to Suchman (1995), there are three types of legitimacy: pragmatic, moral and cognitive. Each of them has a different scope according to perception. Pragmatic legitimacy rests on the interests of the specific environment of the organization (Schuman 1995). According to this type of legitimacy, relationships are established with the environment that can become power relations. The organization takes an active role in directing its policies and objectives, which will be valued in a positive way in a specific environment, especially by its stakeholders.

Based on moral responsibility, following the perspective of Suchman (1995), the organization acts according to what is expected within the social system. This acquires an image of adequacy and receives a positive normative evaluation of the organization as well as its activities (Parsons, 1960, Aldrich and Fiol, 1994). Schuman (1995) recognizes that this deals with a type of legitimacy that is more difficult to achieve and less handling. For Castelló and Lozano (2011) interest groups attribute this type of legitimacy to the corporation, provided that they perceive that they will benefit from the activities of the company. Díez, Blanco and Prado (2010) relate the increase of legitimacy with compliance, demonstration of values and beliefs of their stakeholders.

The third type of legitimacy, cognitive, is based on knowledge, rather than interest or evaluation (Aldrich and Fiol, 1994). Under this type of legitimacy, the organization acquires as its own the belief system developed by professionals and scientists, providing a framework of action to the actions carried out by the company (Scott, 1995). Díez, Blanco and Prado (2010) identify that organizations can gain this type of legitimacy by adopting methods, ideas and practices accepted by professionals and scientists in the sector in which the organizations operate. The legitimacy of the cognitive organization may collapse if the practices are seen as unacceptable (Palazzo and Scherer, 2006).

CSR practices can be rejected if the stakeholders perceive that they are developed merely with the aim of gaining reputation (Castelló and Lozano, 2011). The same authors mention that the different forms of legitimacy are subject to ever more pressure due to the globalization conditions of the organizations. Scott (2007) points out that legitimacy is not something that can

be traded. On the contrary, it must reflect cultural alignment, normative support or consonance between laws and organization. Managers must take into account the importance of the long-term legitimacy vulnerability of interest groups (Post, Preston and Sachs, 2002, Carroll and Buchholtz 2006, Freeman et al., 2010).

In addition to the vulnerability of legitimacy in terms of why CSR practices are carried out, other factors must be considered, such as the sector to which the company belongs as well as the institutional context of the different geographical areas. Companies operating in countries with weak governments face great challenges in terms of legitimacy, unlike those that operate in well-regulated countries. In the latter case, companies expose themselves to losing legitimacy because they do not meet the expectations of the stakeholders. The legitimacy of a company is evaluated based on the best contribution it could potentially make and not in terms of whether it contributes positively to society (Claasen and Roloff, 2012). For all these reasons, the care and empowerment of legitimacy in organizations is essential. The company can increase its degree of legitimacy based on its decisions in such a way that what it determines will condition it to gain more or less legitimacy. The performance of the company will be analysed, supported or not by its pressure groups. It is deduced, therefore, that legitimacy is handling and orientated according to the decisions and behaviour adopted by the company in the light of its stakeholders.

Cognitive legitimacy has much in common with reputation; the fundamental difference lies in the nature of the inference, that is, in how one arrives from one term to another (Bitektine, 2011). Cognitive legitimacy focuses on similarity while reputation on existing differences (Weigelt and Camerer, 1988) compared to other organizations (Deephhouse and Carter, 2005). Legitimacy and reputation are identified as multidimensional constructs (Suchman, 1995, Dollinger, Golden and Saxton, 1997, Ruef and Scott, 1998), in such a way that the sets that make up both concepts often overlap; they can be correlated as the effect of a coincidence to perform the analysis based on the different evaluating criteria (Bitektine, 2011). Legitimacy is often calculated by managers (Castelló and Lozano, 2011). The companies do not limit themselves to reflect institutionalized forms of behaviour but develop strategic responses directed at institutions, in order to fill institutionalized gaps proactively (Oliver, 1991).

The mismanagement of legitimacy can lead to duplication in it, which leads to a marginal decline despite obtaining positive effects. Another consequence of poor management is the decline in the own legitimacy that the organization has (Palazzo and Scherer, 2006). An excess of information, presentation of achievements and challenges by company managers tends to overestimate the expectations of stakeholders, which may imply a loss of legitimacy in the company (Claasen and Roloff, 2012). Dowling and Pfeffer (1975) describe three processes to make an organization legitimate. The first one is to adapt production, goals and the operating methods to adjust to the predominant definitions in the current legislation.

In terms of communication, the other two forms are developed. The first through the modification of the definition of social legitimacy, so that it adjusts to the practices, production and current values of the organization. The second one is developed through the identification of symbols, values or institutions with a strong base of social legitimacy. A company that manages its legitimacy well can be perceived as legitimate either because it acts in accordance with the expected social expectations or because it is capable of successfully manipulating the expectations and perceptions of these interest groups. Company managers must be aware of those aspects that influence the legitimacy of the corporation, both in terms of the development of the organization's own activities and the scope it may have in the community (Claasen and Roloff, 2012).

With regard to the regulatory pillar, culture implies adopting rules, laws and agreements; social structures are acquired through different systems of government and power; routines involve the application of standard protocols and procedures. The normative pillar captures the culture through shared values and normative expectations; the involvement of social structures faces them through regimes and systems of authority and routines are based on compliance and the performance of duties. The last of the pillars, the cognitive, faces the implication of culture through categories, typing and distinctions in structural isomorphism, identities are established using social structures and routine through performance programs and scripts.

According to regulatory institutionalism, legitimate companies are those that act under the legal requirements, ceasing to have this condition those corporations

that are sanctioned. Normative institutionalism interprets that the legitimacy of organizations is acquired through a moral obligation, beyond legal requirements. This pillar is based on the appropriation of norms and values through the accreditation of their behaviour. Each one of the institutional pillars presents characteristics that are their own and differentiating from the others. These involve a different emphasis based on the commitment they acquire, the logic, the mechanisms and the indicators they present. The implications of each of the institutional pillars are established according to the routine, the social structures and the culture that each of them adopts.

This theory considers that organizations are economic units that operate within contexts formed by institutions that affect their behaviour, imposing expectations on them (Campbell, 2007) that lead them to adopt homogeneous behaviours (Campbell, 2006; Prado-Lorenzo et al., 2013a; Frías-Aceituno et al., 2012). DiMaggio and Powell (1983) call this process isomorphism and argue that it promotes the stability and survival of organizations, facilitating greater institutional power and legitimacy. In addition, they estimate that such practices emanate from the decision to professionally make the correct normative isomorphism, be like other mimetic isomorphism model organizations or comply with rules designed by external forces or coercive isomorphism.

In the case of the public sphere, it is the institutional factors associated with external forces or pressures exerted by citizens that initially provoke changes (Gallego-Álvarez, Rodríguez-Domínguez and García-Sánchez, 2010), and subsequently the behaviour becomes relevant mimetic (Marcuccio and Steccolini, 2005) or need to assimilate behaviours to entities of similar characteristics in order to avoid negative effects on their reputation. Hence, these assumptions reveal that there is a special attention to the environment based on the aspects related to the institutional context in which the organizations are immersed. This implies that companies are concerned about social relationships and the institutions with which they coexist, establishing compliance factors and institutional norms as success factors.

Regarding the disclosure of risks (Di Maggio and Powell, 1983, Oliver, 1991), considers that they depend on first consider the cost / benefit uncertainty of the disclosure, understandably, managers can consider imitating the disclosures of other companies (Dillard, Rigsby and Goodman, 2004), particularly companies

with good reputations that by imitating the information in their disclosures, and thereby inform that their risk management systems are equivalent to the industry standard.

Companies may differ in the communication of risk according to their characteristics, the range of commercial activities, location of activities, factors with respect to customers and suppliers and existing plans to deal with commercial risks. Ideal is for companies to reveal their risks according to their own characteristics because otherwise if companies only provide similar disclosures from other companies, they are likely to be general and not specific. These general disclosures (Day and Woodward, 2004) will have limited use for readers and, unlike analysts, it may be difficult for investors to obtain information about companies to assess the risks they face, appreciate the profile and the evaluation of the risk and therefore decrease the quality of risk disclosures.

Company managers may consider that if disclosures are tested and have yielded good results they should be retained, since any variation is likely to attract unwanted attention. Although in short-term disclosures may seem acceptable, it is unlikely to be sustainable, the risks are likely to change, either in its existence or intensity. This leads to an important aspect of the institutional theory in risk reporting, although the disclosures seem non-specific, this is not necessarily because the organization has not been able to identify specific risks. In other words, it is probable that the company has adequate systems to identify risks, but these may not be disclosed in the reports, which leads to the preparation of both low-quality annual and annual reports, because the information transmitted is not the timely and adequate.

The institutional theory is congruent with the cost theory in three different ways. First, it predicts that the revelations will be symbolic rather than substantive in nature. Second, as mentioned above, there is also a danger that these general disclosures may be disconnected from actual risk management practices (Irvine, 2008). Third, disclosure will become routine and do not change much over time. Even when detailed disclosures are provided, they can simply be an exercise in reputational risk and management, which can increase costs for investors (Rubinstein, 2001), as they do not have useful information for decision making since they do not have real risk knowledge, which is a determining factor in the quality of the information. This theory considers that organizations are economic

units that operate within contexts formed by institutions that affect their behaviour, imposing expectations on them (Campbell, 2007) that lead them to adopt homogeneous behaviours (Campbell, 2006, Prado-Lorenzo et al., 2013a, Frías-Aceituno et al., 2012). DiMaggio and Powell (1983) call this process isomorphism and argue that it promotes the stability and survival of organizations, facilitating greater institutional power and legitimacy. In addition, they estimate that such practices emanate from the decision to professionally make the correct normative isomorphism, be like other mimetic isomorphism model organizations or comply with rules designed by external forces or coercive isomorphism.

Therefore, it is necessary to consider what kind of activities the company carries out in terms of social responsibility, how they are selected, how they are evaluated and how they are applied in order to become a responsible and legitimate organization. For all this, this theory is useful to analyse risk management in the sense that corporations to be able to align legitimacy with their stakeholders need to comply with regulations that meet the needs of risk communication and compliance of the values and of the established norms to demonstrate the solvency of the company to its groups of interest.

3.1.3. Neo institutional theory

The neo-institutionalism constitutes a set of rules that determine the institutional processes from the frameworks of incentives and restrictions imposed on the behaviour of the different economic, social and political agents and actors for the formulation and implementation of public policies and that have an impact in the results measured in terms of growth and development. Neo-institutionalism studies the features of economic institutional structures that enable the development of people. According to Burgos (2002), neo-institutionalism defines legal institutionalism and economic development. He argues that the importance of normative reference frameworks and rules of behaviour to guide, constrain, and create power in organizations that are they consider consistent cognitive, normative and regulatory structures and activities that give meaning to social behaviour. The neo-institutionalism emphasizes the institutions that define the behaviour of the actors in front of their social environment. The neo economic institutionalism analyses the failures of the mechanisms of the state and its

inefficiencies as a mechanism of governance and coordination that guarantee agreements and commitments on property.

Regarding the difference of assumptions with institutionalism in reference to the role of values, the neo institutionalism is more oriented to cognitive processes, while institutionalism emphasizes the issues of influence, coalitions and values of competition, along with the power and the informal structures. The new institutionalism emphasizes the legitimacy, the involvement of the organizational fields and the centrality of the classification, routines, scripts and schemes. The new institutionalism serves the organizational fields as units of analysis. The institutional processes can give some stability to the organizational fields, although these are always evolving and are not static, solving socially negotiated consensus differences of interpretation.

The new institutionalism is based on a methodological individualism that is based on the principle that all the results of human actions are explained by the individual action whose interactions in the structures legitimize the institutions. This methodological individualism tends to incentivize individuals based on their actions.

Most academics in international administration have a narrow view of institutional theory centred more on neo-institutionalism (Meyer and Rowan, 1977) and using the concepts of organizational field, legitimacy, isomorphism and mechanisms of international pressure. The neo-institutional model essentially maintains that organizational survival is determined by the degree of alignment with the organizational environment and, therefore, corporations have to comply with external organizational pressures. These pressures seek to gain legitimacy in organizations through institutional and market pressures within their business environment (DiMaggio and Powell, 1983, Scott, 1995). In this theory, companies are considered part of a social system that interacts with society, and its objective is to reduce uncertainty and ensure survival and growth (Aguilera and Jackson, 2003, Chen and Roberts, 2010). The neo-institutional theory holds that an organization, as a community group, encompasses three main pillars: regulatory, mimetic and normative (Scott, 1995).

These pillars generate pressures to which individual organizations respond, so taking these assumptions to organizational management as risk regulations and / or best practices may vary due to competition, institutional environments and the

intensity of those environments. The responses to these factors determine that the decisions of the organizations on whether to retain or disclose risk information, in a mandatory and / or voluntary manner, are affected by pressure whether institutional, regulatory, mimetic and regulatory, which originates an institutional context for the disclosure of companies, where managers can participate in a more mandatory and / or voluntary disclosure, depending on the context of each country.

In this sense, regulatory or coercive pressure encourages managers to comply with mandatory disclosure of risks, while mimetic and / or regulatory pressures generate commitment to voluntary disclosure of risks. However, compliance with risk regulations may require companies to disclose more risk information voluntarily to clarify different aspects, since regulations may be ambiguous or context-independent (Weaver, Treviño and Cochran, 1999). Primarily, regulatory or coercive pressure, which derives from the legal and political power exercised by the state (DiMaggio and Powell, 1983; Scott, 1995: 35), is likely to affect companies' decisions to disclose risk information in mandatory way. The legal environment of the companies is a good example of such coercive pressure, where the authority of the law is usually above the organizational authority of the companies. Recently, there are changes in regulations as the legal environment has become more coercive, requiring structural changes in companies to enrich their information environments and meet the demands of risk information to gain legitimacy.

In a recent paper, Abraham and Shrides (2014) argue that two competing approaches that could explain why companies exhibit information about risk in their annual reports. The mimetic aspect of institutional theory holds that disclosure of risk is likely to be less useful because managers engage in the disclosure of risk as a routine activity. Therefore, the disclosure is likely to be symbolic rather than substantive, and as a consequence, will not change over time, as any change would attract unwanted attention. In addition, they claim that this theory suggests the possible occurrence of decoupling, which suggests that the real risks are not reflected in the disclosure of risks. Because disclosure does not reflect reality, it is not necessary for managers to review it.

Based on this theory, companies are unlikely to disclose risk information when other companies do not. The second approach has to do with the normative

aspect of the institutional theory which holds that the disclosure of risks should change over time, as the risks of companies change over time, due to political, social, economic and environmental factors. Therefore, the disclosure of risks should be discussed in light of the disclosure of the previous year to confirm their coherence and authenticity and the current environment. According to institutional theory, managers like to reveal more risk information to describe their ex ante risks.

Regarding the present investigation, the estates of this theory are taken into account to determine if the notification of mandatory or voluntary risks and risk regulations and / or best practices may vary due to competition, institutional environments and the intensity of those environments. The responses to these factors determine the decisions of the organizations on whether to withhold or disclose risk information, in a mandatory and / or voluntary manner.

3.1.4. Stakeholder theory

The main support of this theory is framed in understanding what are the relationships developed between the organization and the society to which it belongs, seeking to describe its ways of responding and acting on other subjects or organizations of the external and internal environment. Freeman (1983) defines the stakeholders as those groups and / or individuals on which the organization depends for its survival and in the broadest sense includes the groups and / or individuals that may affect or that are affected by the achievement of the organization objectives, these include employees, customers, suppliers, shareholders, banks, environmentalists, government or other groups that can help or harm the corporation.

Ochoa (2005) states that stakeholder management starts from three fundamental premises:

- The organization is threatened by the continuing tension between the support and resistance forces of the organizational actors that constitute its environment;
- the degree of influence of stakeholders depends on the accumulation of three attributes: power, legitimacy and pressing need, which are perceptual phenomena constituted socially by stakeholders;
- administrators and the direction of the signatures; and

-the outcome of the organizational strategy is the collective result of the set of forces exercised by all the groups of stakeholders that seek the satisfaction of their objectives and interests.

In the same way Freeman (1984) systematizes and delineates a way of approaching the stakeholders that gives as a final result. A whole theory of the company and the management that sustains that the obligations that are established between the organization and stakeholders, has two relevant constants: the analysis of the obligations that managers have, as agents or representatives, with respect to other interest groups and the deepening of representative issues with which managers face in their dealings with the various stakeholders.

In the research by Fernández and Bajo (2012), reference is made to six characteristic features of the theory of stakeholders of important consideration theory for this research:

-Any group or individual that can affect or be affected by the achievement of business objectives (Fernández and Bajo, 2012, p. 134);

-The strategic direction of the company should address the achievement not only of the own objectives of the shareholders, but of a wider range of stakeholders: workers, customers, society as a whole, supplier;

-To achieve the long-term maximization of the well-being of all stakeholders, the condition of allowing the achievement of an economic-financial result capable of sufficiently satisfying the expectations of shareholders and stakeholders must be met. For this, the management of the company must know what the values are, what the interests are, and what the expectations of the different stakeholders.

-The constant and dynamic interrelationship between the company, business management and the moral dimension of business activity and managerial action, only this can ensure more full and human ways of life.

-The outcome of the organizational strategy is the collective result of the set of forces exercised by all the groups of stakeholders that seek the satisfaction of their objectives and interests.

-The company must be understood and conceptualized as a set of network stakeholders, interacting with each other in a constant and dynamic manner. These interactive relationships entail, among other things, the fact that, necessarily, there must be divergent and potentially conflicting interests. They

also imply the possibility of establishing alliances between different agents or groups of interest.

-The theory of stakeholder management studies business management there are elements to delineate a business model and management where the ethical dimension can find accommodation in a natural way.

In another aspect Wartick and Wood (1998), point out the interests of the stakeholders, which may be of a material nature that is all that is sought or that is being put at risk and question by the very nature of the business: politicians referred to the distribution of power and influence; interests of affiliation or belonging that point to the desire for belonging of human beings what leads to seek to be part of a social network in which to find location and meaning; interests related to information: refers to the interest in obtaining information, knowledge or opinions seeks to obtain data, relevant news, research results. They demand transparency in the information of the organization; the symbolic interests that imply fundamental concern in the reputation, the image of the company, the perception of the clients, the sense of belonging of the workers towards their company, the empathy towards cultural, religious subjects. In another perspective Mitchell, Agle and Wood (1997), highlight that stakeholders are both internal and external actors, who affect or are affected by the objectives or results of an organization, to the extent that they possess power, legitimacy and urgency.

The stakeholder theory is composed of the ethical (moral) or normative branch and a positive (managerial) branch (Deegan et al., 2003). The ethical branch of stakeholder theory states that all stakeholders have the right to be treated fairly, regardless of the power of the stakeholders in the organization (Deegan et al., 2003). Primary stakeholders are a major component of any organization, because the organization ceases to exist without the support of its primary stakeholders.

Secondary stakeholders, on the other hand, can affect or be affected by the organization; the affiliation between the two is not as drastic as in the case of the main stakeholders. Ethically, the minimum rights of the primary and secondary stakeholders are the same and cannot be violated by the organization. The administrative branch classifies the different stakeholders into different groups

and evaluates the best way in which they can be managed if the organization wants to survive (Deegan et al., 2003).

According to Reed (2008), the stakeholders are most of the operators for whom the advancement and the great welfare of the company are of great interest. Freeman (1984) characterizes them as any convention or person that can influence or be affected by the recognition of the destiny of an organization. Moral contemplations are what have promoted the promotion of the stakeholders, after having been transmitted to a method for develop your regularization point of view the idea is that we are all partners.

Zellweger and Nason (2008), argue that each stakeholder wishes to be treated as a single and unfortunate obligation. Try everyone's event. In addition, they are not the owners of the company, but their support is vital for the survival of the company, and they have a real right over the company. The comparable thinking of these liability relationships applies to various types of entities. In this way, the organization acts in accordance with the diverse needs of the stakeholders, such as the legitimacy theory. The measure of control of stakeholders over the administration is determined by the number of shares it has.

Stakeholders constitute one of the most important tools in the management of custody and control, through stakeholder-organization interaction relationships based on responsibility and accountability (Gray, Owen and Adams, 2010), and their identification with the concerns of the organization.

Wartick and Wood (1998), talk about that these groups have interests related to the information related to obtaining transparent information on the organization and who have different expectations of the organization, and although some manage to exert pressure and influence so that their demands are met. In general, there are multiple conflicts of interests and from there the asymmetry of the information arises, because the manager has data that the stakeholders do not know. In order to overcome these difficulties, the organization needs a dialogue with their stakeholders to elucidate it and gain its support or approval and with-it legitimacy.

In this regard, the risk report is related to the theory of the stakeholders, because as mentioned above, they have an influence on the content of the report that, according to the regulations, obliges publicly notified companies to disclose information on the various risks in the annual report.

In relation to the purpose of the investigation, stakeholder theory will allow to verify if there is a lack of previous systematic evidence about the nature and quality of the risk disclosures contained in the stakeholder reports, based on the fact that each stakeholder has an interest in the transparency of the risk information. They want to be treated as unique being your vital support for the survival of the company, so that they have a real right over the company and the institutions and the fact that the disclosures may be symbolic rather than substantive nature entails the danger that these general disclosures may be disconnected from real risk management practices and disclosure will become routine and does not change much over time, resulting in asymmetry in information.

All these approaches and theories have been developed for understanding the implications that have the different stakeholders such owners, managers and external parties involved in the business when carrying their tasks. These different approaches and theories have been helpful for researchers investigating the effectiveness of MNC stakeholders' reporting practices in both developed and developing countries. These theories are connected with traditional corporate theories and corporate social responsibility theories (Pearson et al., 2008).

The following table shows the main assumption, insights as well as the relevant empirical evidence found for the theories discussed.

Table 3.1
Comparison between Corporate Governance and CSR Theories

Theory	Key authority	Main assumptions- suppositions	Insights - characteristics	Relevant empirical evidence
Stewardship theory	Davis and Donaldson (1991)	<ul style="list-style-type: none"> - Managers perform to do a high-quality job; - There is not a general or inherent executive motivation; - Consider the human being as having higher needs for personal grow, 	<ul style="list-style-type: none"> - It is a principal-agent relationship. - Goals and objectives will be achieved by the steward. - The organization's structure is 	Linsley and Shrides (2006) H1: there is a positive relation between firm size and quantity of risk disclosed

		affiliation, self-esteem, achievement and self-actualization.	fundamental for achieving the company's objectives.	
Neo-Institutional Theory	DiMaggio & Powell, 1991	Firms face different levels of pressure generated from regulations and/or best practices by their competitors	The organization faces different pressures to report mandatory and or voluntary risk information in different jurisdictions	Elshandidy, Fraser and Hussainey (2015) H3: legal and system and cultural values explain variation in risk reporting by companies based in different countries
Stakeholder theory	Freeman (1984)	<ul style="list-style-type: none"> - Contribute to the wealth-creating potential of those groups who affect or are affected by the companies' business performance. - Companies look to promote a more democratic and transparent society. 	- The company's advancement and great wellbeing are of prime concern.	Amran, Manaf Rosli Bin and Che Haat Mohd Hassan (2008) H3: there is a positive relationship between size of the company and risk disclosure.
Legitimacy theory	Dowling and Pfeffer (1975)	<ul style="list-style-type: none"> - Shows integration between companies and the society - Businesses require the permission of societies or gain approval from them. - Highlight how corporate management will act in response to society expectations. - Is related to the macro level social contract between a firm and community. 	- Companies obtain its legitimacy to exist from the larger social system	Ntim, Lindop and Thomas (2013) H4: There is a statistically significant positive association between board diversity on the basis of ethnicity and gender, and the extent of corporate risk disclosures.
Institutional Theory	Meyer and Rowan, 1977	<ul style="list-style-type: none"> - Take into consideration the sector as a whole. - Focus on the capability of the company to accomplish social acceptance. - Considers regulations as a guide for social behavior. - Highlights the regulative impact of the environment on companies' activities. 	- Companies are likely to incorporate external regulations into their businesses to gain legitimacy	Dobler, Lajili, and Zeghal, (2011) H3: There will be no association between the level of firm risk and the quantity of risk disclosure

		- Suggests seeking to place CSR explicitly within a wider field of economic governance characterized by different modes, including the market, state regulation and beyond		
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3.2. Risk management framework

The concept of risk management involves a set of processes that companies need to identify to produce responses in order to control, address, measure and evaluate future events. Risk management helps the board to achieve the successful performance of the company by ensuring the best practices to comply and inform in accordance with the law and the regulatory base of the company, to reduce losses and avoid reputational damage (COSO, 2004). However, Pritchard et al. (2014) states that shareholders fear the large amount of time that needs to be spent in examining and reviewing potential concerns and problems, which some of them may never resolve, associated with cost theory. This includes the ability to observe the risks mentioned by Kelliher et al. (2012) to identify potential opportunities to mitigate risk and increase benefits. However, this situation generally depends on the level of decision making to solve a problem or mitigate the risk, since this may vary according to the position of the level in the company of who identifies it and manages the risk in the different sectors (Kawamoto, 2001).

Hence, there is a variety of alternative risk management frameworks established around the world to monitor them depending on the company. While in some countries these frameworks are mandatory, as is the case in the United States, where public companies must have a financial risk management framework to comply with the Sarbanes-Oxley Act of 2002 (SOX). Other countries use non-mandatory recommended practices for risk management, evaluation and mitigation, such as ISO 31000 (International Organization for Standardization, 2009).

In this regard, COSO has adapted a framework foreseen for all US public companies. UU, which also apply to a number of private companies to comply with SOX regulations. This document is an integrated framework that helps companies to recognize the risk events that can affect the areas of each sector;

in addition, this allows companies to produce accurate and reliable corporate information disclosures, which promotes their quality.

In order to optimize the quality of risk information on from the managers side, transparent information is needed, which must seek a balance between risks, performance and company growth, which is why COSO identified that risk management in the company must be aligned taking into account the following aspects:

- The internal environment of the company; which includes the structure of an organization, establishing the alignments of how the risk is seen and managed by the employees of the companies;
- Establish connected objectives and develop alternatives to mitigate the related risk; -To take advantage to efficiently identify and understand the risk of internal and external companies that affect different parts of the organization, as well as opportunities for possible events.
- Risk assessment: risk analysis taking into account the probability and impact, to know how it should be managed and evaluated.
- Improve the decision of risk responses to recognize and select between different responses, avoiding, reducing or sharing risks;
- To reduce operational losses and surprises, implementing procedures and policies to be able to identify possible events and establish responses to control them effectively;
- Be informed about the aspects of the risks, improve and evaluate the allocation of capital. This includes effective communication between all parties affected and involved in the risks of the companies, allowing employees to provide a rapid response.
- Monitoring and evaluation of the risk management of the company, which allows the company to implement the necessary modifications.

According to the above, business risk management should be a multidirectional iterative procedure that relates one component to another, considering several aspects to make the most efficient decision, hence the importance of its information and disclosure to shareholders and stakeholders in accordance with the stakeholder theory.

3.2.1 Risk management as a form of communication

Since the second half of the twentieth century, risk has become a key concept to understand the social, political and economic changes that have structured the world today. In this regard, business risk management (ERM) is a significant way to identify the critical risks that the organization faces, including financial and non-financial risks, and then manage and optimize that portfolio in order to obtain the necessary financial returns by reducing the uncertainty. Hence the need for quality in risk information, a criterion that coincides with Anderson (2005), who points out that risk is a top-down approach, supported by an organizational strategy, which focuses on new forms of administration and risk optimization.

In this regard, Kelliher et al. (2012) define it as the possibility of events or combinations of events that have an adverse impact on the economic value of a company, as well as uncertainty about the outcome of past events. According to the foregoing, managers seek new ways to add value to shareholders, for this they must innovate in risk management, which are not hazards to be avoided, but are opportunities to take advantage of and their efficient management affects the success of the business strategy.

On the other hand according to ISO 31000, the risk is the effect of uncertainty in the objectives followed by an economic and coordinated application of resources to minimize, monitor and control the probability or the negative impact and thereby maximize the realization of opportunities, where risks can come from uncertainty in financial markets, threats from project failures at any stage of the design, development, production or maintenance of life cycles, legal responsibilities, credit risk, accidents, natural causes and disasters, deliberate attacks by an adversary, or events of uncertain or unpredictable root cause.

In this sense, there are two types of events: the negative ones that can be classified as risks, while the positive ones are classified as opportunities where several risk management standards have been developed, including the project management institute, the national institute of standards and technology, actuarial companies and ISO standards. In this regard, Shapiro's research (2009) discusses about uncertainty and insecurity, pointing out that in globalized contexts companies are managed under these concepts and that they will have to adapt with the primary objective of subsisting, therefore the need to take precedence to the changes that may occur in these contexts after an efficient

risk management which is of vital importance, in order to comply with the objectives and goals proposed by the company.

In the accounting area, risk is a broad concept and refers to a series of results that arise from a conclusion where probabilities can be assigned (Miller, 1992). On the other hand, uncertainty occurs when the probabilities cannot be given to a series of results (Watson and Head, 1998), but it also implies positive and negative events that in the oil area are mainly related to faults, accidents, exposure to losses, damages, pollution, explosions, fires (Sunder, 2015).

For this reason, risk communication is valuable information if investors are provided with risk disclosures in the annual and shareholder reports based on previous research and in terms of quality, to avoid making decisions that affect the flow of cash or in the commercial operations of the company (Hope et al., 2016).

According to the above, risk control is fundamental to direct efforts to avoid potential or real damages that prevent profitability, the fundamental objective being to minimize the adverse effects of risks, with a minimum cost through identification, evaluation and control of them to avoid uncertainty, which originates the imperative to know and communicate the risk through strategies and a common language and concepts, to ensure that all employees and stakeholders understand the objectives and vision of the business, what becomes a valuable tool for decision making and in the transmission of quality information.

In relation to risk communication to shareholders and stakeholders, this should be considered as a space that makes sense through the discussion of the possible threat or its associated benefits. Therefore, its processes imply, among others, the impact on the media, institutional information campaigns, information dissemination and strategies in the construction of a classification of the risk system that varies from one organization to another (Kelliher et al., 2012). They refer to how a organization defines and faces the risks, since the ambiguity will lead to confusion in the reports and in the risk management, which produces the asymmetry of the information, therefore the need for a risk classification system which will be analysed below.

3.2.2. Typologies to inform and manage risks in companies

The administration of risks has come to occupy an important place in the modern institution, increasingly contributing to the fulfilment of the objectives and goals foreseen in the organization. In order to achieve success, any entity must have an organized management of risks, hence its importance, which should be based on a defined institutional policy and backed by senior management that is committed to managing the issue within the organization. This commitment includes raising awareness among the entity's officials, making them aware of the importance of their integration and participation in this process; the definition of a team responsible for leading the exercise and implementation of the proposed actions, monitoring and communication to shareholders and stakeholders to maximize the creation of value.

Therefore, there are different ways of approaching the issue of risks depending on the size of the entity, objectives pursued, administrative culture, and complexity of its operations and the availability of resources, among others. Regarding the typology of risks, classifications are identified such as control risks, financial risks, operational risks, business or strategic risks, legal risks, as well as environmental and safety risks (Ereira, 2007; Hernández - Madrigal et al., 2012, Höring and Gründl, 2011, Jiang, 2008, Kongprajya, 2010, Meijer, 2011, Michiels, 2008, Oliveira and Rodrigues, 2011, Puga, 2012, Vandemaele, Vergauwen and Michiels, 2009 and Yampolskaya, 2006), or even approaches based on the risks identified in the internal control models of international reference (Deumes and Knechel, 2008, Tröster, 2005). In the case of oil companies, they apply financial and non-financial, operational, and business risks, and these must be disclosed both in the shareholders' report and in the annual reports.

ICAEW 1997 distinguishes between financial and non-financial risks. Financial risks are of high importance for financial information, insofar as they can have a direct effect on monetary assets and liabilities. And they are, given that they result from the possibility that cash flows are not managed properly to maximize the availability of money, to mitigate uncertainty in terms of interest rate, exchange rate and uncollectible and the possibility of obtaining money with total liquidity and without loss of value. In this category would be the price, liquidity and credit risks:

- Risk of market or price risk, which includes the risks of interest rate, exchange rate, variation in the price of shares, of commodities (merchandise / commodity) and of financial instruments;
- Risk of liquidity that includes the risks of cash-flow, opportunity and concentration; and,
- Risk of credit covering the risks of default, concentration, legal and collateral or subsidiary guarantees.

B) Non-financial risks

Non-financial risks, in accordance with the origin risk factor, are divided into external risks (originating from external causes of the company and over which it is obviously difficult to act) and internal risks (as a result of internal circumstances, related to the business activities and, therefore, can be controlled to some extent).

The effects of external non-financial risks, also known as risks arising from social, political or economic phenomena, can only be mitigated through contingency plans or insurance policies. Their knowledge is important for formulating strategies, taking advantage of opportunities and avoiding threats, although they do not have immediate financial repercussions.

As indicated in the previous paragraph, in the construction of a risk classification system in a company, its own factors include business, culture, resources, among others. Hence Kelliher et al. (2012), in the elaboration of a system of a typology of common risks, seeks to analyse them at a precise level, seeking to categorize it according to the types of events that may occur in opposition to the causes or impacts that these events may cause depending on the characteristics of each company.

In this regard, it states that companies can have a consistent system to classify the risks that meet their own requirements, and it is unlikely that such systems are identical between companies. Each system represents a risk tailored to the company, with firms that use different terminology for the same risks, or the same terminology for completely different risks, based on them these authors identified seven types of risks that organizations usually use to inform and manage risks and are the following:

- Market risk: is defined as the result of fluctuation in market prices that can cause any loss that affects the performance of the company. This concept is also

known as systematic risk or non-diversifiable risk and is assumed for an oil company when it decides to invest in a market.

- Credit risk: is the probability of loss when the counterparty fails to fulfil any obligation acquired in the agreed terms. This concept also includes breakdowns in terms of losses due to category decreases, time of realization and other unfavourable changes in which a company, as in the case of oil companies, is exposed.

- Insurance and demographic risk: It is the risk experienced by the unfavourable alteration in life, the general insurer and the pension found a claim. It is a threat that affects the financial stability of insurance companies that offer annuity life and business insurance.

- Operational risk: It is the risk of loss arising from the procedures, controls, inadequate systems of the company, failures in its internal processes or external events, risk of utmost importance in oil companies because it includes the loss of overtime and personal temporary contract to solve a problem, in addition to considering health, technology, and environment.

- Liquidity risk: Is the risk that arises from solvency problems when a financial asset cannot be sold or bought quickly, in order to have easy access to cash to meet the liabilities of the company or to minimize or prevent any loss.

- Risk of the surplus value and strategy risk: it is the risk resulting from the unsuccessful plans to reduce costs, improve procedures or optimize the risk profile. It is related to the incorporation of values of existing assets and liabilities and the economic value of the company associated with goodwill in regard to new commercial initiatives.

- Frictional risk: It is the risk caused by the variation in the requirements of the regulatory, rating and accounting agencies when analysing and evaluating the capital of the company. This risk of friction is not only determined by the risk of the performance of the commercial enterprise; this is also related to the variation in the economic risk profile of incurring an additional cost that may have an unfavourable economic value.

The category also covers fiscal risks, such as changes in the tax regime of companies and the specific impacts of the portfolio, such as deferral of tax relief due to an adverse business combination. Finally, the category covers any increase in the economic capital requirements that arise in the absence of any

change in the economic risk profile, due to an increase in the level of confidence required.

The risk classification of Kelliher et al. (2012) was chosen for the investigation of the quality of risk disclosure in the shareholders' report, due to the following considerations: (a) the classifications use different terms to refer to the same risk, (b) use the same nomenclature for completely different risks (Ereira, 2007; Hernández-Madrigal et al., 2012), (c) establishes a classification system based on events differentiating risk and uncertainty (d) has a bias towards financial services which allows evaluating the impact on profitability which influences the creation of value of organizations in the oil and gas sector.

Regarding the difference, they consider that the uncertainty is a deficit of information about the types of results that may occur, that may influence future results and the probability or impact of various results such as unfavourable, expected or favourable; on the contrary the risk is exposure to unfavourable results.

Finally the classification of Kelliher et al. (2012) classifies into six categories of first level and sub-categories; that in the case of the investigation regarding the operational risk according to the importance in the oil and gas companies, it was divided into general and specific taking into account the operations performed. Insurance and frictional risks were not considered due to the activities of the O&G industry.

3.2.3. Principle of materiality in risk reporting

The issue of materiality has become important in sustainability reports, because in the reporting guidelines of the Global Reporting Initiative, (GRI), they put it as the core of the reports, of which all its content depends, within the framework In the International Accounting Standards Board, (IASB, 2004), materiality is considered as a fundamental qualitative characteristic of financial information, and its definition underlines the impossibility of specifying a quantitative threshold with a general character to determine whether or not it is met with this feature.

In this regard, material information is of relative importance if its omission or inappropriate expression can influence decisions made by users on the basis of the financial information of a specific reporting entity. In other words, materiality

is an aspect of the specific relevance of an entity, based on the nature or magnitude, or both, of the items to which the information relates in the context of the financial report of an individual entity.

According to GRI (2005), the aspect of materiality is the process by which it is intended to reach an informative level that does not leave aside any significant topic for the various interest groups, being considered as a key and specific concept that should guide the selection of topics to be included in the annual stakeholder report. Therefore, the sustainability report must include all those contents that have a direct or indirect impact on the organization's capacity to create, conserve or erode both the environmental and the economic and social environment.

For IPIECA (2015), materiality is a management process to determine which problems should be reported and the priority and / or prominence of the content of the issue within a company's sustainability reports. The materiality process is designed to assist companies in communicating sustainability reports under the principles of relevance, transparency and integrity and also serves as the basis for their continuous improvement, which helps ensure that they respond to any major problem of concern to the company, management and / or stakeholders. In this way, the scope of the materiality in a sustainability report is more extensive than that corresponding to its application within the shareholders' reports, in these the materiality is considered as a quantitative threshold, in the field of sustainability it is sought to establish. A broader range of effects and not only with respect to investors but also with regard to the whole group of interest groups or stakeholders and that, according to the GRI, may also take into account their effect at the financial level, but this effect may be more diffuse in time. In the case of a company's reputation, the effect may be relatively immediate, but other effects such as environmental effects may become evident only after a longer period.

The materiality as established by the GRI is something more than the generic declaration of complying with a certain principle to become a driving motive that should govern a whole process that begins with the identification of the issues and issues, as well as its degree of scope, which is considered necessary to be included in the report. This identification must be made from the impacts that the issues may have on the principle of the context of sustainability in its three

dimensions: economic, environmental and social, of the organization itself and in its degree of significance for the stakeholders.

In this way, the materiality information contained in the shareholders' and annual report must cover all aspects or indicators that reflect the significant social, environmental, and economic impacts of the organization or those that could have a substantial influence on the evaluations and decisions of stakeholders (IPIECA 2015). Therefore, the coverage of descriptive information should include those in which the organization does not exercise control or significant influence, but which are related to the main challenges that arise due to significant impacts on profitability, therefore it should include complementary information in regarding legal and governance requirements (Edgley, Jones and Atkins, 2015; Brennan and Gray, 2005).

3.3. Risk disclosure reports

The disclosure of risk information includes its communication by managers and executives, stakeholders and shareholders of a company. The main public consists of suppliers of equity capital and debt, but also includes other stakeholders, such as government officials, regulatory bodies, tax authorities, employees and society in general.

The information disclosed in both financial and sustainability reports, must comply with the fundamental qualitative characteristics of relevance, that is, that influences a decision, and reliability, that is, that it constitutes a faithful representation of economic reality. The previous described concept of materiality, that refers to an accounting rule under which it is determined that some principles of accounting do not necessarily have to be applied in case the items obtained from an economic activity are irrelevant. This indicates that information is important if its omission or misrepresentation could influence the decisions of the investors.

In this way, research on the disclosure of risks to shareholders and stakeholders has been based on theories described, in order to explain the reasons why companies voluntarily present information about the risks they face. However, there is no complete theory that explains the factors involved in the disclosure, as pointed out by Abraham and Shrives (2014).

In this line, Cabedo and Tirado (2009) point out that the results obtained by Botosan (1997), Lang and Lundholm (1996), Botosan and Plumlee (2002), Francis, Nanda and Olsson (2008), evidencing that the disclosure of additional information in financial reports reduces informational asymmetries and the cost of capital of companies. Companies disclose information on risks to reduce agency costs and, in this way, reduce information asymmetry problems, as reflected by the work of Miihkinen (2013) and Campbell et al. (2014).

However, according to cost theory derived from disclosure (Verrecchia, 1983), the decision to disclose more information can bring losses to the organization of competitive advantages caused by the decision to disclose private information, which causes competing companies. They may use such information in a manner that is detrimental to the interests of the company that discloses the information. According to Lajili and Zeghal (2005), the results of their research show a high degree of intensity in the disclosure of risks that reflects both, mandatory and voluntary risk management disclosures. However, the analytical power of such disclosures, as reflected in the risk assessment analysis, seems to lack uniformity, clarity and quantification, which potentially limits their usefulness and the risk management disclosed by the companies, can offer a private knowledge of the business with possible economic disadvantages for the company that offers this information.

On the other hand, in the research of Kajüter, Woods, and Linsley (2007), on risks, internal control and corporate governance, in their results it was obtained that there is influence in the costs due to the disclosure of external and internal risks, likewise, They found that property costs were probably lower for external risks than for internal risks of the company.

In relation to all the above, the disclosure of information is related to agency theory in making business decisions and in the process of control of managers (Jensen and Meckling, 1976) and are related to the presentation of associated information to the improvement of the image of the company, the increase of the confidence of the investors, greater institutional interest and of the analysts or the reduction of the cost of the capital (Easley and O'Hara, 2005). The reality is that the disclosure of strategic information presents both a heterogeneity based on the geographical location of the company (Santema et al., 2005), and a high similarity in terms of content between the periods analyzed, between companies

that are quoted or not. In organized secondary markets and between typologies of companies serving the consumer of their product (Santema and Van de Rijt, 2001), being positively influenced by the quotation in international markets (Gray et al., 1995) and by the presence of independent directors within of the Board of Directors or body in charge of the control of the company (Lim et al., 2007).

3.3.1. Risk reports oriented to shareholders

In recent years, there has been a substantial change in the way in which risk exposures, management and monitoring affect financial operations in the rendering of accounts of multinational corporations to shareholders, whose content must be a true statement about the evolution of the business and the situation of the entity, together with a description of the main risks and uncertainties that it faces.

The demand for information on companies is justified in the need that users have to know the evolution, both historical and planned, to form their opinion and base their future decisions. Therefore, shareholders must be provided with key and easily accessible information on the corporate governance practices applied and a description of the main characteristics of the risk management and internal control systems related to financial information.

That is why one of the fundamental components in the shareholder reports is the description of operational, financial, market, credit and liquidity risks among others, and mention will be made of the objectives and policies of risk management those that the entity is more sensitive all this depends on each organization, its culture and activity developed, but in a broad classification can be financial and non-financial risks.

On the other hand, the information presented to the shareholders must be provided by a communication channel that allows its understanding by the shareholders by providing honest, understandable, meaningful, timely and openly disseminated information that provides them with a realistic perspective of the conditions of the company, as well as the results of the company's operations.

Hence, in preparing the shareholder report, this must contain information regarding the risks to which the entity is exposed, in conjunction with the actions planned to mitigate them. The description of these risks should cover not only

the exposure of the entity to negative consequences, but also the potential opportunities that may arise in order to properly assess what they are, or may be, their effects on profitability and financial situation. Since most of the risks are by their nature, foreseeable in advance, the management systems or tools used to mitigate their impacts according to their nature and importance will be indicated whenever possible, highlighting the priorities if they exist.

Regarding the factor uncertainty, is one of the main variables that constitute the risk activity in the company, it should be noted those that are most worrisome at the present time or have been concerned in the year to which the management report refers. The entity will indicate its importance, possibilities for it to manifest and cause unfavourable evolution and measures that have been taken or can be taken in case they are presented, including the existence of contingency plans to contain them, in addition, these risk disclosures must report relevant, transparent and useful information (Che Haat Mohd et al., 2008).

According to the above, companies need to inform not only the performance of their company mainly, but also the development risks they are facing and other actions and skills to control them (Eccles, et al., 2001). However, this area has not received the necessary attention from policy makers and regulatory authorities since the most recent developments in risk reports mainly include the disclosure of specific areas such as type and nature of derivatives, risk management policies financial. (Klumpes et al., 2014).

For this reason, professional organizations such as the operational risk institute in the United Kingdom and other European countries (IOR), the Financial Information Council (FRC) and other associations are promoting and promoting guidelines to encourage companies to inform and disclose its various risks in its shareholder and stakeholder reports (Linsley and Shrives, 2006, The Institute of Operational Risk, 2014).

This includes in the shareholder report a range of descriptions such as capital assets, cost, decision tree, pricing models, cash flow, the new concept of coverage and all the relevant information related to your business proposal. All this information is relevant for all parties involved in the business, to reflect and measure their performance to improve corporate transparency in an objective manner (Deumes, 2008).

Corporate information can be represented through a variety of voluntary sources of communication, including magazines, newspapers, press reports, brokerage boards, shareholders' letters, management forecasts, analyst presentations, employee reports, interim reports and annual reports (Healy and Palepu, 2001).

In developed countries the annual or shareholder report is perceived as the important, frequent and main source of information among all other sources (Epstein and Pava, 1993, Lang and Lundholm, 1993, Cook and Sutton, 1995, Gray and others, 1996 Abu-Nassar and Rutherford, 1996, Bartlett and Chandler, 1997, Botosan, 1997, Naser and others, 2003, Akhtaruddin, 2005, Alattar and Al-Khater, 2007, Catasús, 2008, Chau and Gris, 2010).

In addition, the annual and shareholder reports provide a source of fundamental public disclosure information, also the companies' websites can provide additional information (Patel and Dallas, 2002) and are considered as the only source of formal information in many countries in development (Naser and Nuseibeh, 2003; Al-Razeen and Karbhari, 2007), although shareholders can access and obtain information directly through contact with management companies (Naser and Nuseibeh, 2003). Annual reports are also produced regularly and are available to the public.

In this regard, Lang and Lundholm (1993) argued that the disclosure of the annual report is positively associated with the level of disclosure provided by other means. Consequently, although corporate information media other than annual reports exist, they still serve as a good proxy for the level of risk disclosure provided by companies in their financial reports (Lang and Lundholm, 1993). The financial report aims to convey useful information to the stakeholders of the company, especially the shareholders. (Zairi and Letza, 1994).

In conclusion, the importance of companies publishing information on risks in financial reports is supported on two pillars: (a) to enable investors to make decisions, facilitating the ability of users to assess the risk profile in which companies develop their activities; (b) as a consequence of the need to obtain financing to carry out their investment projects, obtaining a positive perception among investors about the inherent risk of the company to obtain future cash flows that can meet the required returns.

3.3.2 Stakeholder risk reports

Today, stakeholders have asked for more corporate responsibility and more transparency in their reports on their participation in the business (Perrault and Clark, 2010). However, there are very limited studies on risk reports aimed at stakeholders in developed and developing economies, this is due to the fact that it has only recently been developed and implemented.

The stakeholder known as CSR or Sustainability report, is being considered as a communication tool that aims to provide information internally and externally about the performance of the company, highlighting its development in the implementation of CSR practices with the company and its interest groups (Aras and Crowther, 2009). Over time, CSR has been gaining importance and in the 21st century it has become a common word in the business lexicon (Haro et al., 2012). This report is considered a non-financial tool that demonstrates how a corporation deals with and measures its social responsibility problems (Noronha et al., 2013).

The main objective is to provide the necessary information to make decisions regarding commercial operations and their development with their stakeholders (Tschopp, 2005), is also aimed at informing these groups how they are managing the CSR problems within the organization.

The independent stakeholder report produced by companies has varied in terms of format and content (Owen and O'Dwyer, 2008, Shabana et al., 2016). Over the years, the development and publication of CSR practices have changed and expanded their CSR practices, covering aspects that affect the legal, ethical, environmental and economic development of companies towards society, in particular towards stakeholders (Kolk, 2008).

During the last decade, these sustainable practices are commonly being disseminated to multinational companies seeking to improve their corporate image (Khan, et al., 2009 and KPMG, 2011). Khan, et al. (2009) also point out that although it is not currently a legal requirement for many countries and there are no established universal guidelines for reporting this type of information, companies are expected to do so in order to show transparency in their reports.

Also, this report is an instrument to improve internal decision-making; the relationships of the stakeholders; cost savings; retention to employees and improve financial benefits. With the importance given by companies and

stakeholders to social responsibility practices, standards, standards, guidance and CSR protocol frameworks promulgated by various non-governmental regulatory bodies have begun to be a point of reference for professionals, actuarial, academics and regulatory bodies (Constantinescu and Kaptein, 2015). Since 2014, the Global Reporting Initiative (GRI) launched the GRI content Service Index in order to encourage companies to prepare their CSR reports, introduced in 2013 (GRI, 2014).

This practice has emerged to standardize sustainability reports in format and content and to provide issues that should be addressed in the stakeholders' report (Shabana et al., 2016). In addition, other organizations, such as the International Finance Corporation (IFC), have prepared a series of suggestions that must be considered, in order to develop the stakeholder participation strategy of the corporation. These include methods and frequency for preparing reports; the updating of the commitments registered in function of the material changes; monitoring of any external observation of publicly available results; and the easy comprehension of the publicized information about the format and the language.

These practice of CSR, as well as the shareholder report, improves accountability, rationality and decision-making. It is considered that the practice of informing shareholders is a good sign to expand the goodwill and effectiveness of the organization impacting in the financial performance of the company. In business, those who try to survive in this contemporary era, must actively participate in social activities and is a key factor in building mutual understanding and achieving long-term sustainable growth (Christofi, et al., 2012). The annual sustainability report also began to be relevant and important for government authorities, so much so that in some countries it has become a mandatory practice (Noronha et al., 2013).

3.3.3 Integrated reports

The integrated report is a modality that allows covering the details of the resources, their use and their results, being considered fundamental in the field of business (Cheng, et al., 2014). In 2010, a council was formed under the name of International Integrated Reporting Council with the aim of developing and using specific frameworks for the presentation of integrated reports. One of the

main motivations behind the formation of this council was to ensure that companies and multinationals reported their overall performance in a comprehensive manner.

A template of integrated reports was proposed in Australia, which was based on the management of the relationship with shareholders. This was based on the observation that existing business reports did not include adequate consideration of shareholder problems. Therefore, this framework was proposed in order to empower shareholders and provide them with a means to analyse their investments through integrated reports (Abeysekera, 2013).

The disclosure of risks and the possible results of investments is a guarantee to ensure that shareholders know the internal environment of the organization. In addition, due consideration has been given to the interests of the stakeholders. The disclosure of the company's activities is considered a means to achieve transparency and accountability to stakeholders (Feng, 2017).

The GRI has also worked to develop a concrete framework for the development of a framework for the presentation of integrated reports. It has been suggested that MNCs around the world accept a standard and follow it strictly in their annual reports in an integrated form, which mainly includes the declaration of all financial and non-financial resources and decisions, together with due consideration of the interests of all stakeholders.

In addition, environmental and ecological concerns have also been considered as crucial points of discussion (Fernández-Feijoo, et al., 2014). The GRI together with the Institute of Social Responsibility and Ethics have worked for the development of an integrated framework for the presentation of reports that can serve to provide a way to combat the neglect of social responsibility (Abeysekera, 2013).

The most important objective is to develop and follow a global framework for the presentation of these reports, which entails an increase in transparency in the different business decisions made by the MNCs. It has been seen that the lack of a concrete framework for the presentation of risk reports is creating a gap in the maintenance of transparency in business.

This can only be overcome by developing a framework of work at a global scale, not only for the presentation of risk reports but also for the preparation of integrated reports (Fernández-Feijoo et al., 2014). Since the integrated

information is intended to provide stakeholders and shareholders with a complete and clear understanding of all aspects of a particular multinational, it is necessary that all follow the suggested framework. In addition, this framework can provide the possibility of having access to all information in a single report, instead of reviewing several independent reports on finance, governance, sustainability and management (Dumay, 2016).

An integrated information framework can help shareholders and stakeholders understand the relationship between financial and non-financial aspects of oil and gas companies. In addition, the true relationship and interdependence of various resources and results can be understood more clearly if all are reported in accordance with the integrated reporting framework. This can ensure that there is no room for scandals for directors and owners of MNCs and that they can be held responsible for their actions and decisions (Villiers, 2014).

This standalone can provide a way to ensure that short terms, as well as business objectives and long-term investments are met not only for multinational companies, but also for stakeholders and all shareholders' objectives to provide a detailed overview of all transactions and decisions of the organization in order to present a clear understanding of the business to all stakeholders and shareholders.

It is proposed that this framework include details of each of the decisions and financial results, along with the discussion of non-financial aspects (Thomson, 2015). Consideration of the environment and general ecology has also been emphasized in this framework. Experts have proposed that modern stakeholders not only include the rich and powerful but must take into account small businesses and customers (Sierra, 2015).

The simplest explanation of the integrated framework can be the idea of providing a report that provides an overview of each and every aspect of the organization along with clear details about the dependence of each variable on the other. This can be considered as a road map or an evolutionary tree, for example, that tracks the dependence of different variables and also analyses the effects of these variables on each other (Eccles et al., 2015).

Understanding the increased competition and changing policies of MNCs around the world can only be achieved if these organizations at least work to follow the suggested framework for integrated reporting (Martinez, 2016). It has been seen

that, despite the proposed frameworks and guidelines provided by the IIRC, there is still a lapse in the representation of stakeholders' concern (Flower, 2015). This problem has been associated with the lack of practical guidelines and research in the area of integrated reporting. The main problems include the lack of understanding among professionals and the lack of clarity of laws that are considered to have little practical application (Veltri and Silvestri, 2015). The possible measure to overcome this problem as proposed by IIRC is to develop separate reports for the disclosure of the company's financial terms and non-financial aspects (Alexander and Blum, 2016)

Since its inception, the IIRC has been working to develop a concrete framework for the presentation of integrated reports and has also continuously revised the guidelines in order to meet the need of the moment (Adams, 2015). In the absence of standardized frameworks, there is great variation in the way risks are reported, and if companies want to understand the determinants of this variations to comprehend what determines the quality of risk reports and highlight the challenges presented by a report and that Guideline must addresses. In oil and gas companies is slightly different, since they have such a strong set of industry guidelines, due to issues of legitimacy, responsibility and risk management.

3.4 Empirical studies

According to the studies analysed in the quality of risk disclosures, it can be said that these are based on content analysis of the information disclosed, based on a prior classification of the risks in categories or types of risk. The classification of risks in such categories is based, fundamentally, on the creation of a disclosure index associated with the type of risk and the reports of shareholders and annuals, in a subsequent phase, then serves to the analysis of propositions (Beretta and Bozzolan, 2004; Deumes and Knechel, 2008). In a quantitative perspective, the ways to analyze the amount of compliance with risk disclosure, pass by counting sentences (Beretta and Bozzolan, 2004, Lajili and Zéghal, 2005, Linsley and Shrivies, 2006), by recording the number of words (Abraham and Cox, 2007, Lajili and Zéghal, 2005, Klumpes et al., 2017), or record the number of paragraphs.

In other analyses, studies that classify the information related to risk, are shown to be consonant with the nature of the content of the information disclosed in

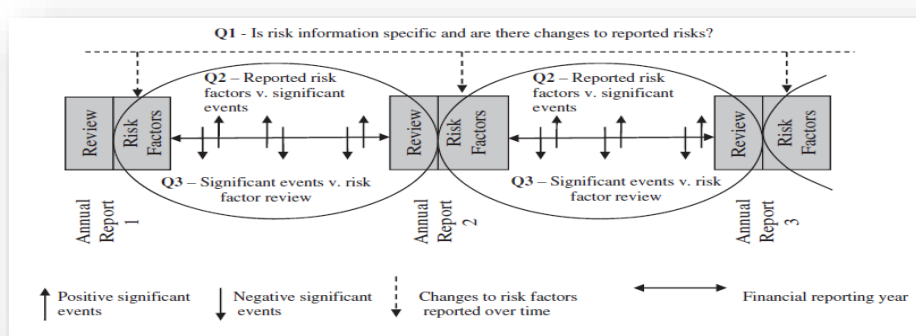
good, bad or neutral (Linsley and Shrives, 2006). In this regard, Linsley and Shrives (2006), especially, concluded that the nature of bad news disclosure is around 20%, good news 26% and neutral news about 54% of disclosures.

According to several authors, to improve the quality of risk disclosure it is recommended that entities quantify, as far as possible, the risk dimension (Beretta and Bozzolan, 2004, Linsley and Shrives, 2006), which makes it possible, to the users of the information disclosed, calculate its impact on its public of interest.

The agency theory and the legitimacy theory suggest that larger entities have a greater public interest and, as such, present additional disclosure needs, supporting the existence of relationship and / or association and / or significant differences between the dimension of the entities and the quality of risk disclosure (Deumes, 2008; Yampolskaya, 2006).

Another significant body of empirical research has examined the quality of risk disclosures in shareholder reports, in this sense, Abraham and Shrives (2014) analysed the relevance of risk factors in the UK food industry during the 2003-2007 and developed a model to assess the quality of risk disclosures. This model consists of three questions that managers can use to assess and evaluate the quality of risks (see Figure 1).

Figure 3.1 Model to evaluate the quality of risk reports



S. Abraham, P.J. Shrives / The British Accounting Review 46 (2014)

According to the predictions of these authors are based on the empirical implications of property costs theory and are considered of a general nature,

which can be reported for any type of company. As managers only report what is relevant to them, it is not useful for business stakeholders.

On the other hand, authors such as Beretta and Bozzolan (2004) propose a methodology for measuring the quality of information on risks disclosed by companies. The proposal of Beretta and Bozzolan (2004) establishes that the quality of the risk information depends on the quantity of the information disclosed and the richness of its content. They understand wealth as the semantic properties that help users to evaluate the expected impact of such information. On the other hand, as can be seen, the quality of the information disclosed does not change significantly. That is, despite the pressure exerted by regulatory agents and users towards greater transparency, which has forced companies to offer a higher level of information on risks, the quality of this information has not increased.

In this sense, Cabedo and Tirado (2009) present a methodology for measuring the degree of disclosure of risk information based on its informative content for the user, rather than on the quantity. The index proposed by these authors would be closer to the concept of quality than to quantity. In effect, the value of the index only increases if the published information has an increased informative content on which previously it has been supplied.

Both proposals have been applied to different companies, the first of them by Beretta and Bozzolan (2004), to analyse whether the quality of the risk information disclosed by Italian companies in financial reports was related to various corporate variables. While the dissemination index proposed by Cabedo and Tirado (2014) has been used to study the disclosure of risks in the Spanish capital market and to analyse whether the risk information disclosed by companies listed on the Spanish capital market affects at the cost of own resources.

On the other hand, in an empirical study of sustainability reports, Dilling (2009) reviewed the quality of sustainability reports in 25 countries, the results of this analysis show that European companies and those based in the energy sectors, have more odds of producing high quality sustainability reports. However, this study only has a positive impact on the sustainability reports (G3), which have been reviewed G4 and.

Some other empirical studies (Bachoo, Tan and Wilson 2013); Martínez-Ferrero, García-Sánchez and Cuadrado-Ballesteros, 2015) examined the general relationship between the quality of financial information and the type and extend sustainability reports. These studies in their results highlight that there is a positive relationship between the disclosure of CSR and financial reports, but none of these studies provide any information about the quality of risk reporting practices.

3.4.1 Determinants of the quality of disclosure of risk: Size of the company

The quality of risk disclosure has been studied by many authors (Salamon and Dhaliwal, 1980, McNally and others, 1982, Cowen and others, 1987, Cho and Wong-Boren, 1987, Cooke, 1989 and 1992, Wallace and others, 1994, Hossain and others, 1994 and 1995, Meek and others, 1995, Raffournier, 1995, Giner, 1997 and Depoers, 2000) is the explanatory factor par excellence of information disclosure (Ahmed and Curtis, 1999). However, since this variable may be related to very different corporate attributes, the ultimate reason why larger companies reveal more information is unknown (Leftwich et al., 1981 and Ball and Foster, 1982). Among the reasons proposed by these researchers are the following indicated by Laffarga, 2002:

- In the larger companies, the unit cost of elaborating the information is smaller and is more probable that the systems and agents involved are more sophisticated (Mora and Rees, 1996 and Depoers, 2000). It is even possible that the processing cost is zero, since the data may be available in the internal information systems (Singhvi and Desai, 1971 and Malone and others, 1993).
- Equally, the greater the company, the greater will be normally the saving of global costs, including those suffered by external agents, which occurs when centralizing the company in the elaboration of the information.
- To a larger extent, it is more likely that society will act in different markets or sectors, obtain financing in different countries or have to provide more information to the public (Schipper, 1991 and Depoers, 2000).

In this regard, it can be said that the size of a company is the characteristic most commonly analyzed in previous studies to explain the level of risk disclosure (Raffournier, 1995, Watson, Shrivies and Marston 2002, Bozzolan, Favotto and Ricceri 2003, Prencipe 2004, Barako, Hancock and Izan 2006, Bronson, Carcello

and Raghunandan 2006, Macagnan 2007) evaluated the size proposition. Large companies have a greater number of contracts between managers and shareholders than small companies and, therefore, a greater problem in the principal agent. A higher level of disclosure could reduce agency costs among managers and shareholders. Another motivation for greater disclosure in a large company is the existence of a more complete information system, which would allow lower costs of obtaining and publishing information compared to those incurred by a small company (Watson et al., 2002). It is also understood that a smaller company is more vulnerable to a loss of competitive advantage than a larger company.

It can be said according to the analysis of reviewed studies that the corporate size is linked to different characteristics that motivate the publication of a greater volume of information, such as the increase of external funds needed, transparency, the maintenance of a public image, among others, large companies resort to capital markets in search of financing more frequently, which conditions the quantity and quality of the information that will be disclosed. According to Giner (1995), one of the main reasons for the quality of information is the need for good relations with capital providers to obtain financing in good conditions and potential investors.

In the same sense, Leftwich et al. (1981), obtain that the proportion of external capital tends to be higher for large companies, which are more prone to disclose risk to meet the information needs of lenders (Jensen and Meckling, 1976). In addition, larger companies are more visible in markets and in society in general, with greater coverage by analysts, and are more politically sensitive to their public image. This situation would lead to an increasing number of potential users, creating in turn a greater demand for information and pressuring companies to communicate truthful and transparent information that allows quality in the disclosure of risk.

In this regard, other studies have found a positive relationship between corporate size and the amount of information about risks (Giner 1997, Chen and Jaggi, 2000, Beretta and Bozzolan (2004), Linsley and Shrives (2006), among others). In addition, Ahmed and Courtis (1999) and García-Meca and Sánchez (2006) in their findings found a positive association between the size of the company and the disclosure of voluntary information.

On the other hand, Lindsey and Shrives (2006) investigated the empirical implications of agency and stewardship theories, the nature of the business and the level of risk and the amount of risk reported in non-financial companies in the United Kingdom. According to the implication of management theory, they discovered that there is a positive relationship between the size of the companies and the amount of risk disclosed. However, they also found implications of agency theory and found that there is a positive association between a risk level and a risk factor for only one of two risk categories. Therefore, the results of this study provide support for the theory of administration. However, this study was carried out only in one country (UK), which has a strong tradition of voluntary reports based on principles.

This research supports the findings of Beretta and Bozzolan (2004), whose research is related to the measurement of the amount of information in financial reports in Italian companies, their findings show a positive relationship between the company and the size of the risk, and are also consistent with the implication of stewardship theory. Manaf Amran Bin Mohd Rosli and Hassan Che Haat (2008) examined the risk disclosures in 100 Malaysian companies selected at random. According to the implications of stakeholder theory, the authors predict that there is a positive relationship between the size of the company and the disclosure of risk. Therefore, the results of this investigation show that the size of the company matters in the event that the number of stakeholder increases.

In a comparative study among developed countries, Dobler, Lajili and Zeghal (2011) investigated the information on corporate risks attributes in the manufacturing sector predict that there is no association amount of risk in the companies and the level of disclosure of risks. According to the institutional theory, they found that there is a positive, but not statistically significant, relationship between these two variables. However, they also found that the amount of risk disclosure is highly associated with the size of the company. In accordance with the above, the size of the company was selected as a determining factor in the quality of the disclosure of risk in the present investigation.

Chapter IV

Proposition Development

The present chapter contains the propositions which consist in the tentative explanation of the investigated phenomenon formulated as propositions.

In this regard, Hernandez et al. (2010), point out that within scientific research, propositions is the relationships between two or more variables and are supported by scientific and systematized knowledge. There is currently little systematic evidence on the nature and role of risk reporting practices between developed and developing countries. In addition, previous studies reflected in the literature did not examine the information practices that adopted the recently implemented voluntary guidelines that address CSR risk information practices.

4.1. Proposition System

In accordance with the above, the propositions that will be contrasted in the investigation to determine the quality of risk disclosures are developed. The findings to be found are consistent with the empirical implications of stewardship theory, institutional and neo-institutional theory in relation to shareholders reports. In contrast, the findings of these studies with respect to stakeholder information are consistent with stakeholder and institutional theories, theories studied in the literature reviewed in the previous chapter.

Then the formulation of the propositions for the present study:

1. Determinants of the quality of the risk disclosures based on (a) quality of risk and its listing stock status in developed or developing countries; (b) size of the company and; (c) quality of risk disclosure and its relation to industry- specific voluntary guidelines as a guide for the preparation of stakeholder reports.

The first proposition is related to the quality of risk disclosures and the firm stock market listing status in developed or developing countries. This proposition is associated with institutional theory that argues that institutional rules affect organizational structures and their performance (Meyer and Rowan, 1992). Institutional rules will shape over time the structure of organizations that pursue

the goal of social and neo-institutional legitimacy. Neo-institutionalism identifies regulatory, cognitive and normative systems as pillars of institutions (Meyer and Rowan, 1977). He argues that organizational survival is determined by the degree of alignment with the organizational environment and, therefore, organizations have to comply with external organizational pressures. Therefore, this context of being a developed or developing country influences the quality of risk disclosure:

Proposition 1a: There is a positive relationship between companies based in developed countries and the quality of the risk disclosures in the shareholders' reports of the O & G firms relative to developing countries

Proposition 1b: There is a positive relationship between companies based in developed countries and the quality of risk disclosures in the stakeholder reports O&G firms relative to developing countries

The second proposition addresses the relationship between the size of the company and the quality of risk disclosures in shareholder and stakeholder reports of the O&G companies. Based on the empirical implications of the stewardship theory, which assumes that professional managers of any company are intended to perform effectively and efficiently when develop their activities.

In relation to the company size and as a result of the analysed literature and the results of previous studies, it can be observed that there are common characteristics between companies in terms of quality of the information disclosed in shareholders and stakeholder reports, indicating that large companies (Lindsey and Shrives (2006) Beretta and Bozzolan (2004), Manaf Amran Bin Mohd Rosli and Hassan Che Haat (2008), and those based on the energy sector (Dilling 2009), are more likely to disclose high-quality information. According to institutional theory (Dobler, Lajili and Zeghal, 2011), they found that the amount of risk disclosure is highly associated with the size of the company.

In this sense, the following propositions have been developed to show whether the size of the company shareholders and stakeholders reports is determinant company characteristic in what refers to the quality of the risk disclosures in developed and developing countries. Therefore, it is predicted that:

Proposition 2a: There is a positive relationship between the size of the company and the quality of the risk disclosures in the shareholder reports of O&G firms.

Proposition 2b: There is a positive relationship between the size of the company and the quality of the risk disclosures in stakeholder reports of O&G firms.

The third proposition is related to the quality of risk disclosure and its relationship to follow the voluntary guidelines for the preparation of firms' reports. This proposition is associated to legitimacy theory that considers that organizations are economic units that operate within contexts formed by institutions that affect their behaviour, imposing expectations on them (Campbell, 2007) that lead them to adopt homogeneous behaviour (Campbell, 2006, Frías-Aceituno et al., 2012). DiMaggio and Powell (1983) call this process isomorphism and argue that it promotes the stability and survival of organizations, facilitating greater institutional legitimacy and power. In addition, they estimate that such practices emanate from the decision to professionally do the right thing (normative), to be like other organizations (mimetic) or to comply with the rules designed by external forces (coercive).

In the present case, the oil companies are the institutional factors associated with external forces or pressures that exert that initially cause changes (Gallego-Álvarez, Rodríguez-Domínguez and García-Sánchez, 2010), after which the mimetic behaviour becomes relevant (Marcuccio and Steccolini, 2005) or need to assimilate behaviours to entities with similar characteristics in order to avoid negative effects on their reputation. Therefore, it is predicted that:

Proposition 3: There is a positive relationship between the companies that follow the voluntary guidelines and their propensity to increase the quality of the risk disclosures in the reports of the stakeholders.

Chapter V

Research methods

This chapter describes the qualitative research method that has been implemented to evaluate the mentioned propositions. Section 5.1 explains the procedures for selecting the samples used to carry out this investigation. Section 5.2 describes the different sources of data collection used. Section 5.3 defines the variables utilised in this research and describes the construction of the risk disclosure matrix to carry out the content analysis of shareholders and stakeholders' reports. Finally, section 5.4. explains the methods used to analyse propositions.

Different disclosure indices have been developed to proxy the quality of disclosures (Chen et al., 2015; Klumpes et al., 2017). These encompass self-constructed content analysis (Botosan, 1997; Baretta and Bozzolan, 2007, Klumpes et al., 2017), disaggregation quality (Chen et al., 2015), Fog Index (Li, 2008), among others.

As have been described by several researches (e.g. Healy, Palepu, 2001; Botosan, 2004, 2007) the amount of disclosures (quantity) is a sound proxy for measuring quality of disclosures. Thus, a weighted self-constructed index has been used in this study to carry out a content analysis to proxy the degree of quality disclosure of risk information (Lajili and Zéghal, 2003; Mohobbot, 2005; Linsley and Shirves, 2006; Abraham and Cox, 2007 and Klumpes et al., 2107). These empirical studies have taken the keywords as a variable of the degree of disclosure of risks, that is, the more words a company discloses in their reports, the more it is understood that it disclosure more information about risks. Considering the similarity of this research with these studies, two self-constructed index have been elaborated, in order to carry out the stakeholder and shareholder content analysis to proxy the quality of risk disclosure.

Likewise, this research has a qualitative character, based on an empirical study that uses content analysis as an objective, systematic and qualitative techniques to determine the quality of risk disclosures in shareholder and stakeholder reports for the studied period (2016-2017) in developed and developing countries in the Americas and Europe. The reports were downloaded from the web pages of each selected company on the internet in the period under study.

5.1. Sample selection procedures

The population of the research sample includes shareholder, stakeholder and / or integrated reports that include MNCs in the O&G sector headquartered in developed and developing countries. The O&G industry was chosen for the present analysis for the following reasons: (a) O&G firms have relatively significant levels of commercial risk associated with the impact of their activities on the natural environment; (b) are subject to a series of strict regulatory controls and intense public scrutiny in relation to their compliance with relevant environmental, health and safety and social obligations.

Canada, the United Kingdom and the USA were selected as the sub-sample of developed countries, since there is a significant presence of the O&G sector in these countries, which have a significant impact and influence on the global economy. Brazil, Argentina and Colombia were chosen as the sub-sample of the developing markets, since these LATAM countries have shown a significant increase in the last 10 years in terms of economic growth. In addition, O&G MNCs based in these countries also have significant requirements for national regulatory monitoring of their risk management systems to comply with relevant licensing obligations.

Finally, the companies selected in these countries are publicly listed on the stock exchanges of these countries and are not state owned. O&G MNCs based in these countries were chosen for the following reasons: (a) they have a significant presence in the securities markets of these countries; (b) these MNCs have similar operating scales and compete directly with each other; (c) compete directly with each other in the rising international oil business. Finally, all selected countries required O&G firms to comply with harmonized international accounting and information standards, as well as with established national regulations.

Table 5.1 summarizes the key characteristics related to the country of origin and age of the O&G MNCs sample that were selected for the present analysis. The companies were chosen because their central offices and their primary listing are based on the relevant national stock markets and were incorporated at least two years before the study period. Five companies from three developed countries and five companies from three developing countries were selected, with their

respective shareholder, stakeholder and / or integrated reports that are publicly available on their websites during the 2016-2017 period.

Table 5.1
O&G Sample Firm Characteristics¹

Country Classification	Country of origin	Company name	Year of incorporation	Headquarter	Stock Exchange main listing
Developed	Canada	Suncor Energy	1919	Calgary, Canada	Toronto Stock Exchange
	UK	British Petroleum plc (BP)	1908	London, England	London Stock Exchange
		Premier Oil plc (PMO)	1934	London, England	London Stock Exchange
	USA	Exxon Mobile	1999	Texas, USA	The New York Stock Exchange
		Chevron	1911	California, USA	The New York Stock Exchange
Developing	Argentina	YPF	1922	Buenos Aires, Argentina	Buenos Aires Stock Exchange
		Petrolera Pampa S.A. (Now Pampa Energía 08/2018)	2009	Buenos Aires, Argentina	Buenos Aires Stock Exchange
	Brazil	Petrobras	1953	Rio de Janeiro, Brazil	Brazil Stock Exchange
		OGX Petróleo e Gás Participações S.A (Now Dommo Energy, 09/2017)	2007	Rio de Janeiro, Brazil	Brazil Stock Exchange
	Colombia	Ecopetrol	1951	Bogota, Colombia	Colombia stock exchange

Source: Bloomberg; Reuters websites

5.2. Data collection sources

Data was collected from a range of primary and secondary research sources. Primary data sources comprise collected data obtained from shareholder, stakeholder and / or integrated reports obtained from the company's websites. These include disclosures related to key financial characteristics, relevant

¹ There were some changes in the ownership and/or name of the following companies during the study period: (1) The company OGX Petróleo e Gas Participacoes SA changed its name in September 2017 and is now called Dommo Energia (2) Petrolera Pampa SA was acquired by Pampa Energía in August 2018.

quantitative and qualitative risk disclosures, and detailed statistical information on IPIECA relevant disclosures related to environmental, health and safety and social and economic factors and the different types of risk described by Kelliher et al. (2012). Secondary data sources comprise a range of publicly available corporate governance and cultural factors (e.g. companies listing status). The sample period chosen for analysis is the financial reporting period 2016-2017. This is the first year when relevant IPIECA and G4 guidelines were first fully implemented.

5.3 Variable definitions

This section briefly discusses the dependent, independent and dummy variables (companies' characteristics) used to evaluate propositions described in chapter IV. Table 5.2 summarizes the definition of these variables that have been used in the empirical tests.

Table 5.2
Variable definitions

Variable Name	Label	Definition	Source
Disclosure index of quality of environmental and financial information (accounting, legal or moral and environmental indices)	DISC	Researcher coded from content analysis	Shareholder or Sustainability report
Proposition 1: Developed or developing country listing status of O&G MNCs	LIST	Dummy variable = 1 if the firm is listed in a developed stock market, 0 otherwise	Developed or developing country stock exchange membership
Proposition 2: <i>Size</i>	SIZE	Total assets in USD billions as at end of 2016 and 2017	ORBIS database
Proposition 3: IPIECA members	<i>VOLUNT</i>	Dummy variable = 1 if the company is using voluntary guidelines, 0 otherwise	Shareholder or Sustainability report

5.3.1 Dependent variables

Using the risk categories identified by Kelliher et al. (2012) and Based on Klumpes et al. (2017) empirical research, a weighted self-constructed index has been constructed in this study to carry out a content analysis to empirically proxy the quality of risk disclosures. Krippendorff (1990) defined a content analysis as

a research technique designed to formulate from certain data, reproducible and valid inferences that can be applied to its context. This method uses the frequency of selected words as a measure of quantity of disclosures (quality), which grows with its frequency of appearance. Further, Groeben and Rustemeyer (1994) claim that the content analysis is a tool utilised to systematically understand texts and document evidences. This method helps researcher to reduce the amount of data in order to make it manageable for analysis (Krippendorff, 2004).

Hence, two separate self-constructed indexes have been elaborated in order to carry out the content analysis and examine the quality of the risk disclosures in shareholders and stakeholders' reports. These disclosure indices were prepared based on a maximum of 42 points given to the analysis of the shareholder reports and 30 points for the stakeholder reports for each different risk identified by the risk classification of IPIECA guidelines (2015) and Kelliher et al. (2012). These scores were then reweighted to a possible maximum of 100 in order to ensure consistency in both matrixes.

The reports of the shareholders and stakeholder are publicly available on the website of the sample of multinational companies identified in table 5.1 and analysed for each year 2016 and 2017, consecutively. At the time of the analysis the following changes were found in the stakeholder reports noted in table 5.3:

Table 5.3
Problems encountered in collecting stakeholder reports

Company	Issue
Ecopetrol	Produces only an integrated report that contains all shareholder and staked holder information consolidated. This integrated report has been used for the evaluation of both matrix in regards the key words table build for shareholder and stakeholder report and were applied for the analysis of the data
OGX	2016 and 2017 stakeholder reports have been revised in Portuguese as the English version was not available
Suncor	2016 stakeholder reports were not available in pdf format, however this stakeholder reports were available online. The revised version was the online version converted into PDF format
Premier Oil	Stakeholder reports were not available in pdf format, however this stakeholder reports were available online. The revised version was the online version converted into PDF format
Exxon Mobile	For the year 2017, the company reported their sustainability activities in an integrated report denominated 2017 Summary Annual Report. In this report was reflected all the sustainability activities, however Forbes (2018) claimed that the company published their 2016 sustainability report only as an experiment

The method implemented to recognize the various risk classifications for disclosure indices of shareholder and stakeholder is described below:

The risk categories explained by Kelliher et al. (2012) were chosen to elaborate the self-constructed index based, who classifies risk into six major categories of first level and these in sub-categories. For each of these major risk categories (credit, liquidity, market, operational, and strategic risks), a number of equally weighted type of risk disclosures were identified based on keywords that are most closely associated with them. These types of risks have been extracted from the relevant risk categories identified by Kelliher et al. (2012), i.e. equity, default, energy, and solvency. For operational risk, it was divided into two major risk categories, general and specific. The general category considers operational risks that apply to all type of industries. The specific operation risk category includes those related to O&G activities, for which keywords were selected, that are more closely associated with the work processes of the O&G industry. Table 5.4 summarizes the six major categories of first level and sub-categories, identified by Kelliher et al. (2012) in their risk classification framework.

Table 5.4

Kelliher et al. (2012) risk major categories and type of risks

Major Risk Category	Type of risk	Brief description
Market Risk	Equity	Risk of adverse movement in shares
	Property	Risk of adverse movements in property
	Bonds	Risk of adverse changes in bond prices
	Commodity	Risk of adverse changes in prices of commodities and in the cost of carry
	Foreign exchange	Risk of adverse changes in foreign currency exchange rates
	Inflation	Risk of adverse changes in implied inflation
	Interest Rate	Risk of adverse changes in base rates
Credit Risk	Counterparty	Risk of loss through default of a counterparty
	Default	Risk of losses as a result of default

	Credit downgrade	Risk of loss through downgrade
	Trade debtors	Risk arising from default of default of trade debtors plus any increase in debt provision
	Renegotiation	Changes in debts or agreements agreed upon
Operational Risk (Specific)	Energy	Fires and / or explosions that affect people, facilities and equipment
	Safety	Workplace safety practices
	Climate	Risk of adverse effects of deterioration in atmospheric conditions on productivity
	Environment	Risk of damage due to external physical, chemical and biological effects
	Technology	Potential loss due to damages, interruption, alteration or faults derived in physical and computer systems
	Disaster	Risk of loss due to accident caused by the activity of the company
	Health	Risk of suffering an injury or illness in the exercise of their duties
Liquidity Risk	Liquidity strain	Strains to liquidity position as a result of liability related outflows
	Solvency	Risk of impairment of liquid resources available to meet outflows
	Withdraws	Liquidity strains arising from corporate outflows
	Collateral calls	Liquidity strains due to payment of the obligations guaranteed in the event of default by a debtor
Operational risk (General)	Internal fraud	Risk of company's own staff engaging in unauthorized activity, theft of resources
	External fraud	Risk of 3 rd party stealing resources
	Clients and products	Risk of loss from failure to act in client interest, from flaws in products
	Execution	Failure to properly process information
	System failures	Risk of loss from failure of computer systems
	Business disruption	Risk of loss from failure of telecommunication systems
	Asset damage	Physical damage to an asset
Strategy	Macroeconomic	Risks of wider macroeconomic impacts has adverse impact on strategy and sales

	Competitor	Risks to strategy from competitor actions
	Political	Risk that political uncertainty adversely affects demand
	Regulatory	Risks to strategy from regulatory changes
	Reputation/brand	Risk that poor reputation undermines strategy or that a firm brand does not support strategic objectives
	Fiscal	Risk of changes in regulatory, accounting rules adversely affecting firm strategy
	Tax	Risk of changes in taxation and adverse impact on tax asset impairment on strategy

Kelliher et al. (2012)

On the other hand, the stakeholder risk report index was constructed based on the three main risk categories related to CSR that identified in the IPIECA risk disclosure guidelines (2015). These risks are related to the environment, health and safety and the social and economic problems associated with O&G activities. Then a keyword search was conducted to recognize it using this classification. Table 5.5 summarizes the various types of sustainability risks and their definition for research:

Table 5.5

Types of sustainability risks - IPIECA Guidelines (2015)

Major Risk Category	Type of risk	Brief description
Environmental Risk	Biodiversity	Variability among living organisms, including diversity within species, between species and ecosystems
	Climate change	Change in atmospheric conditions that affect the activity of the company and the environment
	Energy	Research, development, supply and / or use of energy from non-fossil fuels, and alternative and renewable energy
	Ecosystem	Ensure that potential impacts are appropriately mitigated, associated the potential risks are managed effectively

	Water	Essential ecosystem service for humans considering the needs of people and ecosystems
	Local environment	Operations in the exploration, production, refining, marketing and transportation of oil and gas industry can result in impacts on the local environment
	Waste	Control of waste and garbage disposed of resulting from operations
	Spill	Number and volume of spills greater than one barrel (bbl) that reach to the environment
	Emission	Emissions of greenhouse gases
	Decommission	Planning activities for asset forfeiture at the end of its operating life cycle
Health and Safety Risk	Protection	Protection of the work force, measurement of incidents
	Health	Programs and processes for the promotion and prevention of health
	Injury	injury that impedes the ability to deliver an appropriate level of work
	Illness	Diseases caused by work routine
	Hazardous	Toxic material and flammable substances in circumstances where it could cause illness or injury
	Accident	Risk in the labour force to suffer a labour accident in the labour force
	Explosion	Actions that cause serious injuries, deaths, property damage and / or emissions to the atmosphere
	Fire	Control of the risk of work accidents caused by fire
	Event	Prevention of events that could potentially result in damage to people, damage to the environment and socio-economic impacts
	Safety	System of mandatory provisions that aim to prevent and limit risks
Social and economic Risk	Community	Set of people who live together under certain rules or who have the same interests
	Society	Organized system of relationships established between this group of people
	Local	Regarding the place itself

	Human rights	Due diligence in the field of human rights in the workforce and contractors
	Ethic	Values and norms that direct or value the behaviour in the company
	Corruption	Prevent corruption, including giving or receiving bribes
	Transparency	Information in a clear, understandable and objective manner and in a coherent manner that facilitates independent review in the disclosure of processes, procedures, assumptions and limitations that affect the report
	Workforce / Labour	Staff / employees
	Grievance	Security of complaint mechanisms to promote equity and respect for the dignity of workers and effective commitment between management and the workforce
	Penalty/ Compensation	Policies, programs and procedures for involuntary resettlement, including commitment processes and practices with communities that may be affected

Based on the self-constructed index that used the described risk categories, then the dependent variable corresponds to the given total disclosure score per company. This was calculated based on the sum of the total score assigned to all major risk categories, after carried out the content analysis of every shareholder and stakeholder report and the respective risk punctuation given, depending on the words' level of occurrence. The process of assigning the relevant score will be explained in the following sub-section.

5.3.2. Construction of risk quality index

Two self-constructed index were elaborated to analyse the quality of the risk information disclosed in shareholder and stakeholder reports published by the O&G MNCs for the 2016-2017 financial years. Using the principle described by Botosan, (2004) and Baretta and Bozzolan, (2007) on their research that estate that quantity and quality of disclosures are not separable in some empirical

scenarios, then it is assumed on this investigation that quantity of risk disclosure can be proxy for the quality of risk disclosure.

Based on the research carried out by Baretta and Bozzolan, (2007); Horing and Grundl (2011) and Klumpes et al. (2014, 2017), that used a content analysis to better understand and analyse companies reporting data, a self-constructed index for analysing shareholder and stakeholder reports has been constructed. This is based on the risk classification described by Kelliher et al. (2012). For each of the main risk categories, they were identified according to the disclosure characteristics of risks that are most suitable for O&G companies and weighted equally according to the keywords that are most closely associated with them. The scale of the disclosure was based on a subjective judgment related to the frequency of occurrence of the key words. Consistent with the adaptation of previous studies (Klumpes et al., 2014; 2017), tables 5.6 and 5.7 have been elaborated and reweighted as described in previous section, to identify each of the risk elements. Following the subjective judgement given by Klumpes et al. (2014, 2017), a score of 1 was assigned where the keyword has been disclosed frequently in the report (to be at least six disclosures). A score of 0.5 was assigned if the risk indicator is partly disclosure (between 1 and 5 times reported); and a score of 0 was assigned if the word was not reported at all. Klumpes et al. (2014, 2017) state that a word disclosed more than 6 times is sufficient indicative of a company risk disclosure. This approach is consistent for both shareholder and stakeholder reports, which resulted in a maximum score of 7 points per category of risk for the shareholder index matrix and 10 points per category of risk for the stakeholder index matrix, then reweighed to 100. The disclosure rates given to each of the risk listed in each category is listed below:

Score	Condition
0	if the word does not appear in the report
0.5	if the word appears between 1 and 5
1	if the word appears 6 or more times

Table 5.6 shows the weighting for analysing the quality of risk disclosures in shareholders reports.

Table 5.6

Shareholder risks disclosures weight

ID	Category	Kelliher et al. 2012 items	Max Score	Weight %
1	Market Risk	1 equity risk; 2 property; 3 bond; 4 commodity; 5 foreign exchange; 6 inflation; 7 interest rate	7	16,67%
2	Credit Risk	8 counterparty; 9 default; 10 bad and/or doubtful debt; 11 unpaid rent; 12 credit rating; 13 overdraft; 14 re-negotiation	7	16,67%
3	Operational Risk (specific)	15 energy; 16 safety; 17 environment; 18 climate; 19 technology; 20 disaster; 21 health	7	16,67%
4	Liquidity Risk	22 liquidity strain; 23 solvency; 24 withdraws; 25 collateral; 26 impairment; 27 cash shortfall; 28 illiquidity	7	16,67%
5	Operational Risk (general)	29 operational loss; 30 fraud; 31 control failure; 32 defect; 33 system error; 34 business disruption; 35 asset damage	7	16,67%
6	Strategy Risk	36 macroeconomic impact; 37 competitor; 38 political; 39 regulatory; 40 reputation/brand; 41 fiscal; 42 tax	7	16,67%
Total disclosure score			42	100%

Regarding the stakeholder index matrix, the selected words and their weighting are reflected in table 5.7:

Table 5.7

Stakeholder risks disclosures weight

ID	Category	IPIECA (2015) items	Max	Weight
			score	%
1	Environmental Risks	1 Biodiversity; 2 climate change; 3 energy; 4 ecosystem; 5 water; 6 local environment; 7 waste; 8 spill; 9 emission; 10 decommission	10	33.333%
2	Health and Safety Risks	1 protection; 2 health; 3 injury; 4 illness; 5 hazards; 6 accident; 7 explosion; 8 fire; 9 event; 10 safety	10	33.333%
3	Social and Economic Risks	1 Community; 2 society; 3 local; 4 human rights; 5 ethic; 6 corruption; 7 transparency; 8 workforce/ labour 9 grievance; 10 Penalty	10	33.333%
Total disclosure score			30	100%

5.3.3. Independent variable

In order to test P2, size of the company as independent variable is related is used, calculated by the total number of assets reported in USD billions at the end of 2016 and 2017. This number has been gathered by every company financial annual reports in USD, downloaded from OSIRIS database. The corporate size is linked to different factors that could lead to a greater volume of risk information. Previous studies such as Linsley and Shrivs (2006) and Beretta; Bozzolan (2004) and Abid (2018), have found that the size is positively related to the annual risk report.

5.3.4. Dummy variable / Companies' characteristics

Two dummy variables were also developed in this study in order to empirically evaluate propositions using qualitative methods and scatter plots.

The first company characteristic is related to the status of the O&G MNC country list, whether the company is listed as a membership of a developed or developing country. This is a categorical variable in which (Yes) has been used to show whether the company is listed on a stock market developed or (No) otherwise.

In order to test P3, a dummy variable is used to indicate whether (Yes) if the stakeholder reports follow the guidelines established in the IPIECA guide or (No) of not following them.

5.4 Data Analysis / Procedure for evaluating propositions

Content analysis has been carried out to analysed shareholder and stakeholder reports of the sample of 5 companies based in developed countries and 5 based in developing countries for 2016 and 2017. The sample includes a total of 40 shareholder and stakeholder reports. 20 shareholders reports; of which 10 corresponds to firms with headquarters in developed countries for the years 2016 and 2017 and 10 to companies with headquarters in developing countries for the same period; and 20 stakeholder reports, 10 for companies based in developed countries and 10 in developing countries for 2016-2017. The content of every report was analysed applying the self-constructed index matrix elaborated, in order to get the total quality disclosure score by risk category and then by company. A keyword search was done to assign the respective score

(according to the punctuation criteria) for each type of risks of every major risk category. After obtaining the total of the major risk category, the total quality of risk disclosure (DISC) was calculated by the sum of all major risk categories score result. In order to test P1, P2 and P3 this dependent variable has been empirically evaluated, comparing the total score at different levels:

- a) comparing the quality risk disclosure at company level;
- b) comparing the quality of risk disclosure by risk category; and
- c) comparing the overall quality of risk disclosure in between developed and developing countries.

In order to study the relationship between dependent variable (DISC) index and independent variable (SIZE) to test P2, dispersion diagrams were elaborated for developed and developing countries in order to evaluate the relationship between both associated sets of data. The relationship between the associated sets of data are inferred from the shape of the clouds.

Finally, in order to evaluate the last proposition, a set of charts were constructed classifying whether the companies follow IPIECA as a voluntary guideline in developed and developing countries.

Chapter VI

Empirical analysis

This chapter comments on the empirical analysis of the data described in the previous chapter in order to test the research prepositions predicted in chapter IV. This analysis has conducted to the following:

6.1 Descriptive analysis: Risk disclosure Index

This section reports the total quality of risk disclosures in shareholder and stakeholder reports of the O&G sample company headquartered in developed and developing countries for the analysed period. This includes a graphic presentation of (a) risk disclosure at company level; (b) disclosure by risk categories (market, credit, liquidity, operational specific / general, liquidity and strategy) and (c) a summary of disclosures for shareholder and stakeholder reports by sub-samples from developed and developing countries that enable to investigate the different tendencies of the risk disclosures in developed and developing countries for the period of study.

6.1.1 Shareholder reports analysis

Table 6.1

Shareholder reports - Total DISC scores by company 2016-2017

Company	Kelliher et al. (2012) Score 2016	Rewighted 2016	Kelliher et al. (2012) 2017 score	Rewighted 2017
Suncor	22.50	53.57	19.5	46.43
BP	26.50	63.10	21.5	51.19
Premier Oil	21.00	50.00	20.00	47.62
Exxon Mobile	20.50	48.81	18.00	42.86
Chevron	18.50	44.04	19.00	45.24
Avg Developed	21.80	51.90	19.00	46.67
YFP	26.00	61.90	25.50	60.71
Petrolera Pampa	21.00	50.00	21.00	50.00
Petrobras	19.00	45.24	13.50	32.14
OGX	11.00	26.19	12.00	28.57
Ecopetrol	21.00	50.00	18.50	44.04
Avg Developing	19.60	46.67	18.10	43.09

Table 6.1 shows the total average of quality of risk disclosures by company reweighted (out of a possible 100 score maximum) for shareholder reports, as well as the total average DISC calculated for companies based in developed and developing companies, separately.

It can be observed that the average score of quality of risk disclosure (DISC) in shareholder reports is higher for the companies headquartered in developed countries than the score of the companies based in developing countries, for both periods analysed, however the difference between them is not significant. It can be also noticed that there is a decrease in the average score from 2016 and 2017 in both sub-samples (developed and developed).

a) Graphic analysis stage one: Risk disclosure at company level

Figures 6.1 and 6.2 have been elaborated to illustrate the total average risk disclosure in the shareholder reports, described in table 6.1. These charts are classified by companies based in developed and developing for the years 2016 and 2017, respectively.

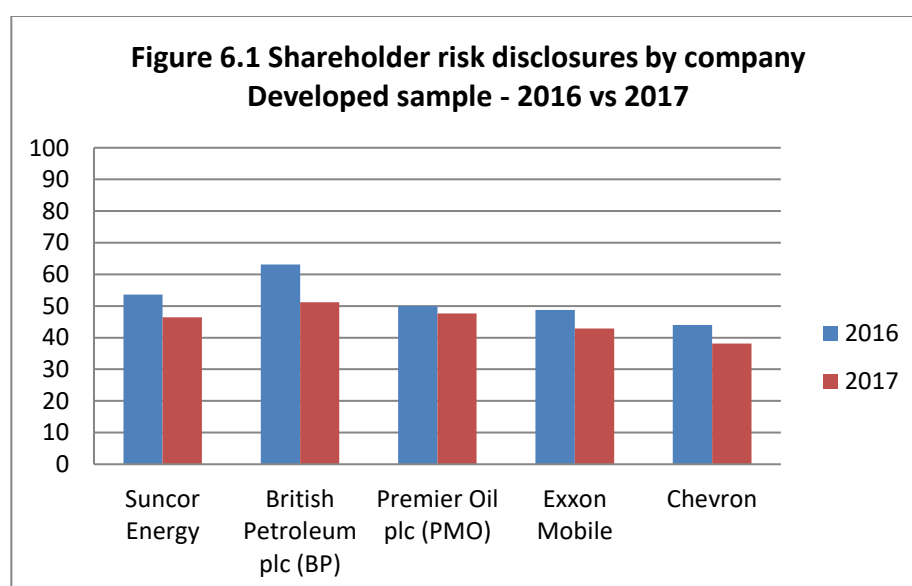


Figure 6.1 shows the total quality of risk disclosures in shareholder reports based in developed countries for 2016-2017. The chart shows that BP, company headquartered in the United Kingdom had the highest average of total risk disclosures for both periods studied. However, the total average of risk

disclosures decreased slightly in 2017. In contrast, the Chevron firm located in the US showed the lowest risk disclosure ratio for both periods. The same behaviour is observed for all the developed companies' sample, which shows a higher score of risk disclosures in 2016 compared to 2017 (Appendix X1.1 and X1.2).

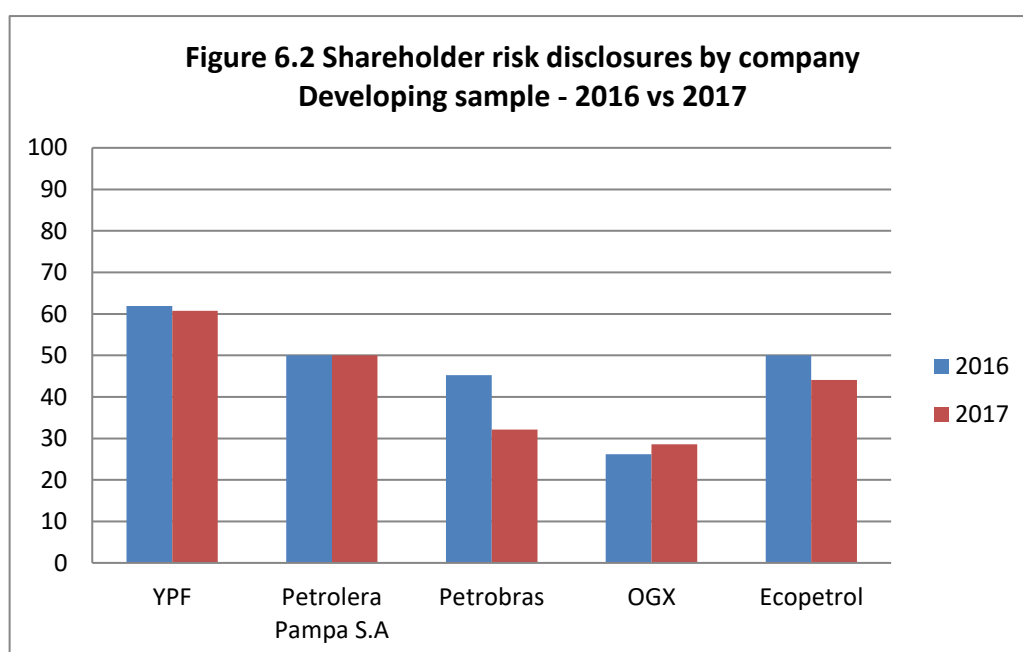


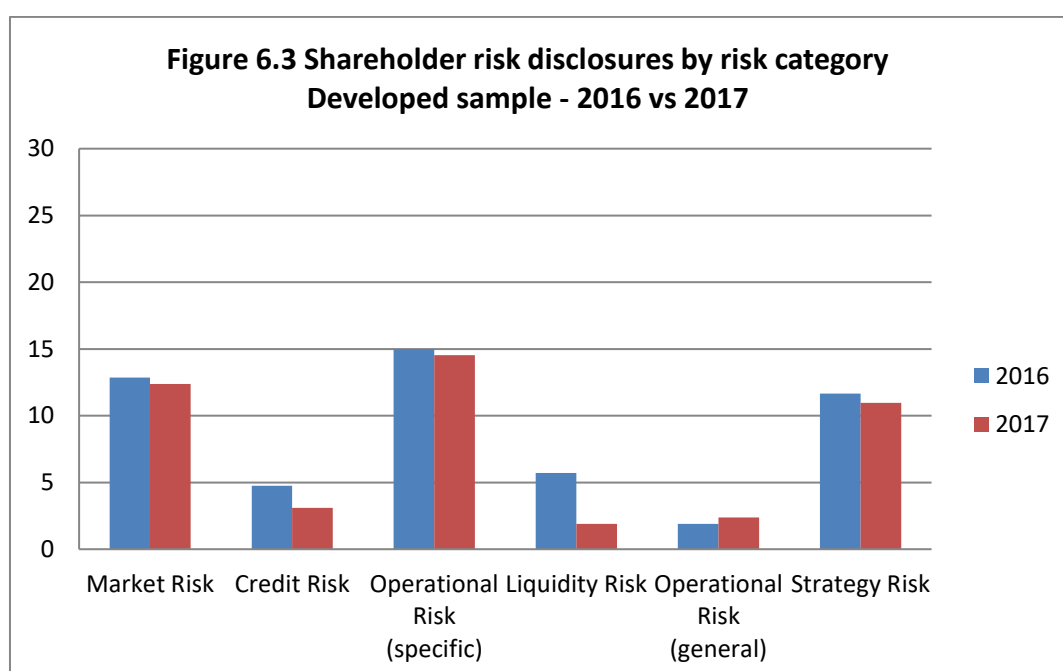
Figure 6.2 shows the equivalent trends for the sample companies in developing countries for 2016-2017. The company YPF based in Argentina shows the highest total risk disclosures for developing countries, which were nearly identical for both study periods. On the contrary, OGX based in Brazil, reported the lowest scores of risk disclosure, however, is the only company that shows a small improvement in the score for the year 2017 (Appendix X1.3 and X1.4).

These results support the predictions of P1a that states that companies based in developed countries disclosure higher quality of risk in shareholder reports than the firms based in developing countries for both periods. However, it is also observed that the quality of risk disclosures by firms based in developed countries for the year 2017 have decreased and show a similar level of disclosure than firms based in developing countries.

Generally, based on the perspectives of Kelliher et al. (2012), it can be observed that the level of risk disclosure for the majority of the companies correspond to a medium level, and that this level varies among the firms and their headquarter country location. This is a steady pattern, except for the company OGX based in Brazil, which discloses the lowest risk levels in stakeholder reports.

b) Stage two: Risk disclosure at risk category level

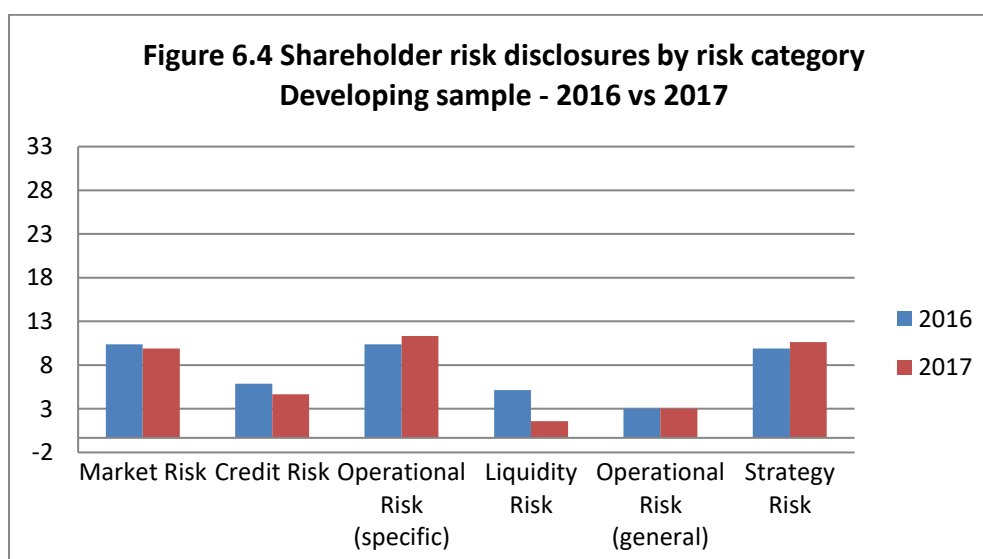
For exploring different patterns on the risk disclosures, figures 6.3 and 6.4 have been elaborated, in order to show the breakdown of the average risk disclosure trends of the shareholders for 2016-2017, classified by type of risk, for the selected sample of companies in developed and developing markets, respectively.



For the selected firms' sample headquartered in developed countries, figure 6.3 shows that the operational risk (specific) is consistently the highest risk disclosure for both sample periods in developed countries. This is an expected result, as have been studied in the literature; O&G companies tend to focus their risk disclosures on the main areas that the companies are focused on to carry out their operations. Market and strategy risks have also disclosed a significant quality of risk in their shareholder reports. These two risks category, have also a

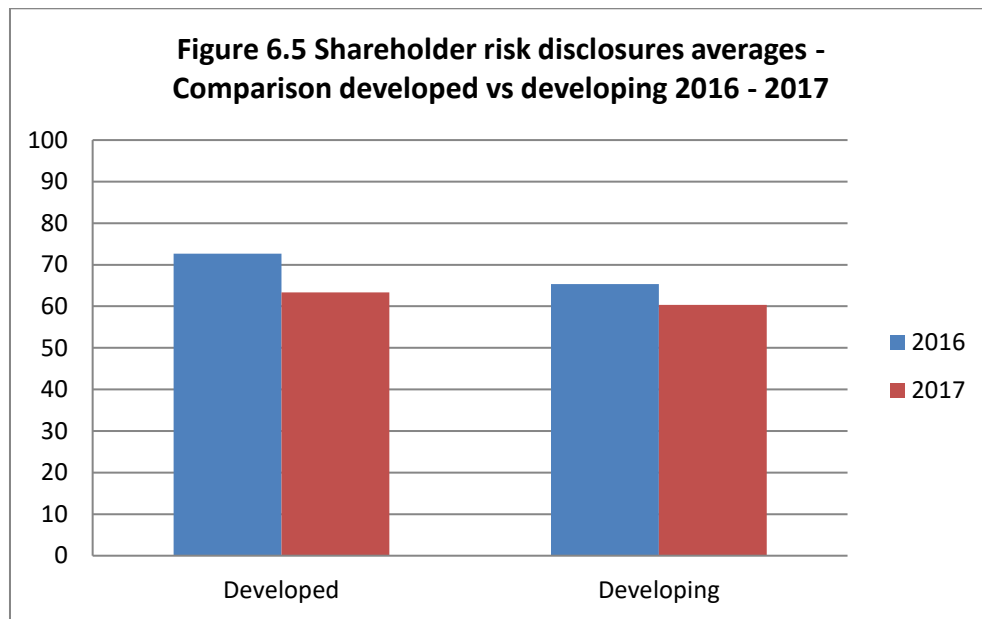
significant impact for the company shareholders as these areas reveal the necessary information for further investors in terms of companies' performance and strategy. On the other hand, the disclosures of operational risk (general), is relatively the lowest for 2016 and liquidity risk for 2017, showing that companies in developed countries tend to be less interested in disclosing information about their obligations and unfavourable performance.

Figure 6.4 shows the equivalent trends for developing market sample companies. Similar to the trends reported in Figure 6.3 for the equivalent developed sample firms, operational risk (specific) is consistently high in both years in companies based in developing countries. Additionally, consistent with the results shown for companies based in developed countries, firms headquartered in developing countries also disclosure an important quality of market and strategic risks, in their annual reports for both periods. In contrast, the total scores of the operational risk (general), liquidity and credit category are relatively low, consistent in both years. However, these ratings are slightly higher on average than for sample companies in equivalent developed countries.



c) Stage three: Overall risk disclosure in developed and developing countries

Figure 6.5 illustrates the total average scores of quality of risk for shareholders reports, comparing the sample of companies headquartered in developed countries versus those in developing markets, in the 2016-2017 study years.



The figure 6.5 shows that the total average score of risk disclosures for the sample companies based in developed countries is higher compared to the firms based in developing companies. However, the difference between the total averages of risk disclosures for developed and developing countries is not highly. Additionally, the figure shows that there is a slightly decrease in the total average score from 2016 compared to 2017 for both firms' subsamples, implying that there is a reduction in the quality of risk disclosures for the year 2017.

6.1.2 Stakeholder reports analysis

Table 6.2 shows the total average of quality of risk disclosures by company reweighted (out of a possible 100 score maximum) for stakeholder reports, as well as the total average DISC calculated for companies based in developed and developing companies, separately.

It can be observed that the average score of quality of risk disclosure (DISC) in shareholder reports is higher for the companies headquartered in developed countries in 2016 than the score of the companies based in developing countries. On the contrary, for the year 2017 the score of the companies based in developing countries is higher than the score in developed countries, however the difference between them is not significant. It can be also noticed that there is a decrease in the average score from 2016 and 2017 in developed sub-samples.

Table 6.2

Stakeholder reports - Total DISC scores by company 2016-2017

Company	IPIECA score 2016	Rewighted 2016	IPIECA score 2017	Rewighted 2017
Suncor	26.50	88.33	25.00	83.33
BP	23.50	78.33	24.00	80.00
Premier Oil	26.00	86.67	24.50	81.67
Exxon Mobile	27.00	90.00	11.00	36.67
Chevron	21.00	70.00	18.50	61.67
Developed AVG	24.80	87.13	20.6	68.7
YFP	22.50	75.00	23.50	78.33
Petrolera Pampa	0	0	18.50	61.67
Petrobras	24.50	81.67	26.00	86.67
OGX	10.00	33.33	11.50	38.33
Ecopetrol	28.00	93.33	27.50	91.67
Developing AVG	17.00	56.67	21.40	71.33

a) Graphic analysis stage one: Risk disclosure at company level

Figures 6.6 and 6.7 have been elaborated to illustrate the total average risk disclosure in the stakeholder reports, described in table 6.1. These charts are classified by companies based in developed and developing for the years 2016 and 2017, respectively.

Figure 6.6 illustrates a range of relevant results for the total quality of risk disclosures in stakeholder reports of firms based in developed countries for 2016-2017. The figure shows that the American company Exxon-Mobile reports the higher levels of total quality of risk disclosure in its stakeholder reports for 2016. However, this decreased significantly for the year 2017, due to the decision of the company to not continue to produce a separate stakeholder report that focuses its content in the three key CSR areas. It can be observed that the majority of the sample companies report high levels of CSR risk associated in their stakeholder reports for the year 2016, according to IPIECA (2015) guidelines; however, the chart shows a decrease of the quality of risk reporting for the year 2017 in the majority of the firms except for BP that shows a slight increase for 2017 (Appendix X1.1 and X1.2).

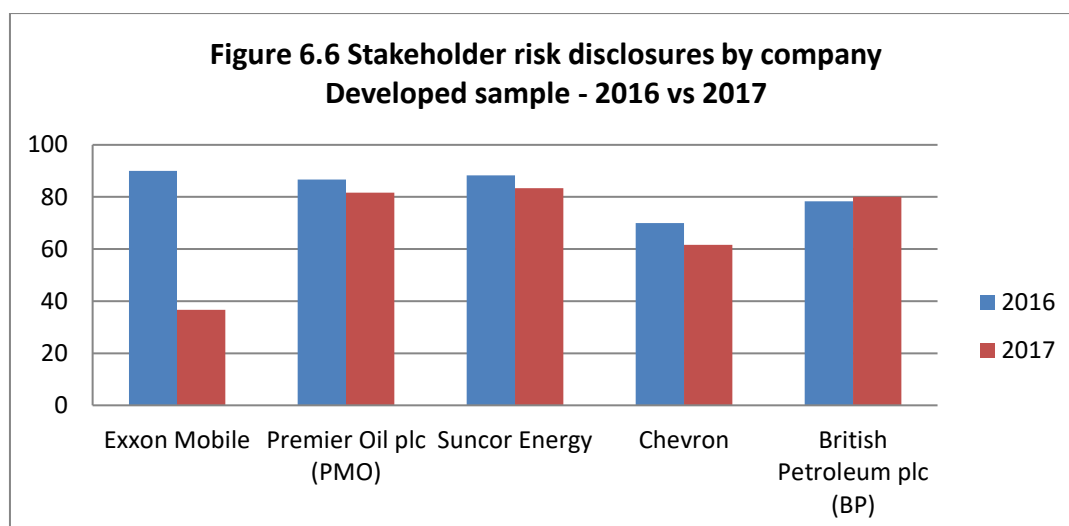
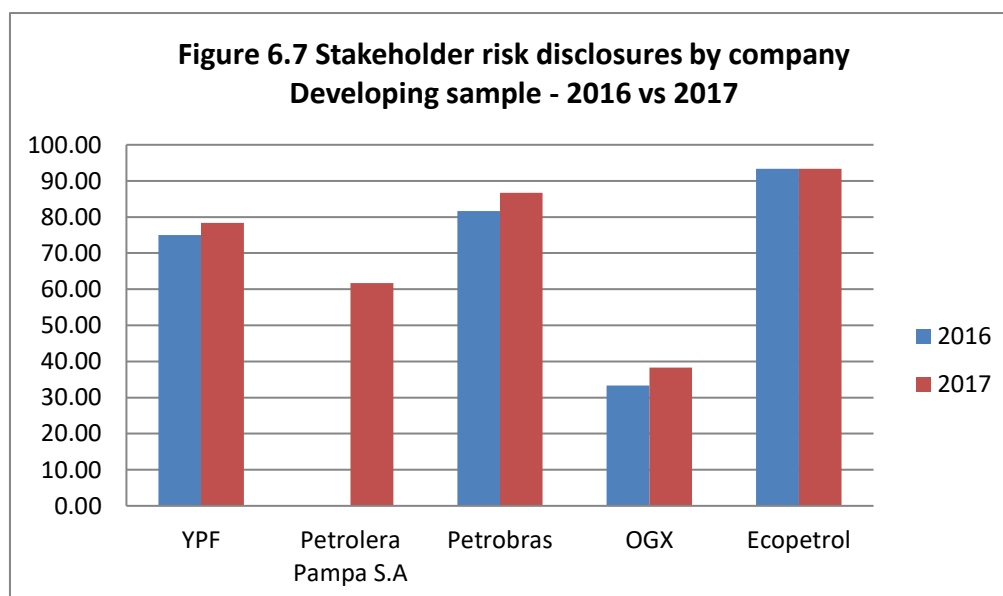


Figure 6.7 shows that the quality of risk disclosure for companies headquartered in developing countries for the study period. The figure shows that the risk disclosure score for 2016 is relatively lower in all companies compared to the score in 2017, except for the Colombian company Ecopetrol, which shows the same total of quality disclosure for both periods. This Colombian firm is the company with the highest quality of risk disclosure in both periods of analysis.



b) Stage two: Risk disclosure at risk category

Figures 6.8 and 6.9 report the total risk disclosure scores of the stakeholder's reports by risk category for the sample companies in developed and developing markets, respectively.

Figure 6.8 shows that companies headquartered in developed countries disclose higher quality of risk in the social and economic risk category, followed closely by environmental risk and lastly the risk category of health and safety. This pattern is consistent in both periods of analysis. It can be also observed that the quality of risk disclosure for all risk categories show a constant decrease in the total score per risk category comparing 2016 versus 2017.

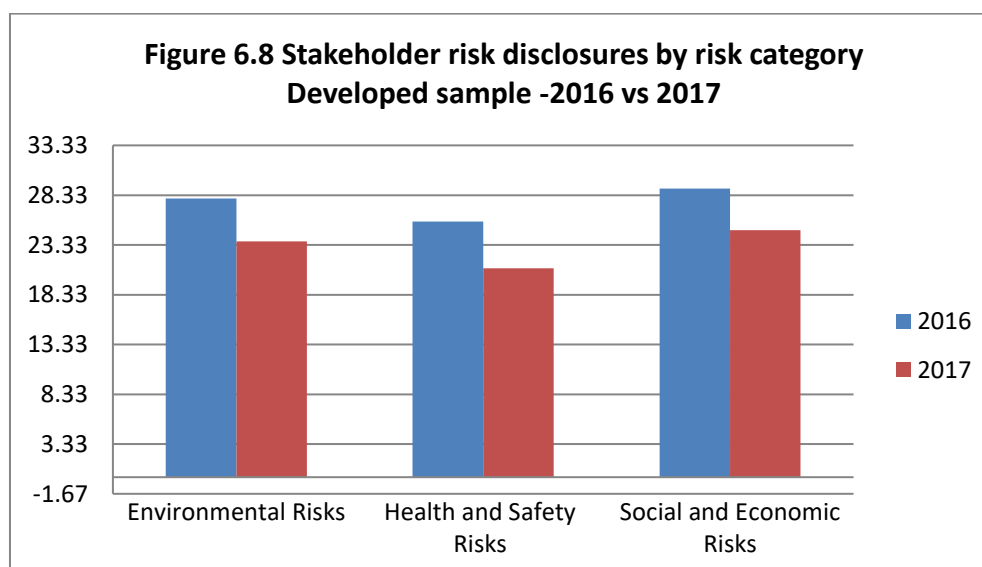
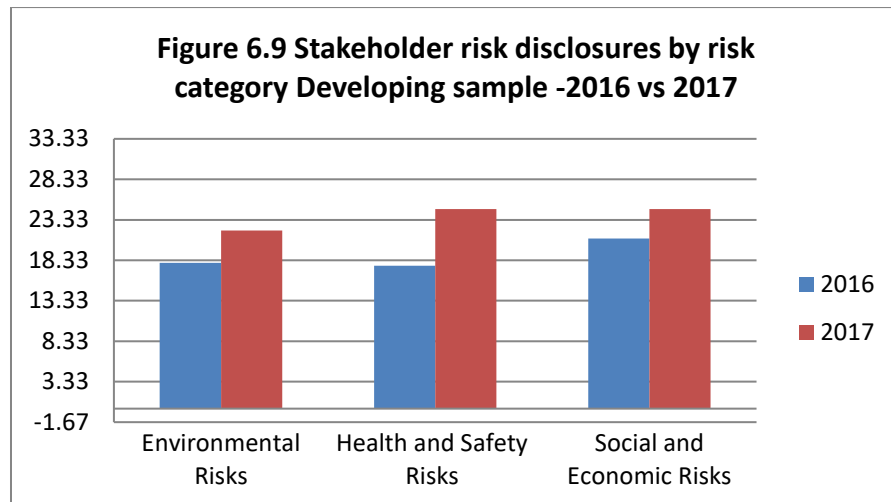
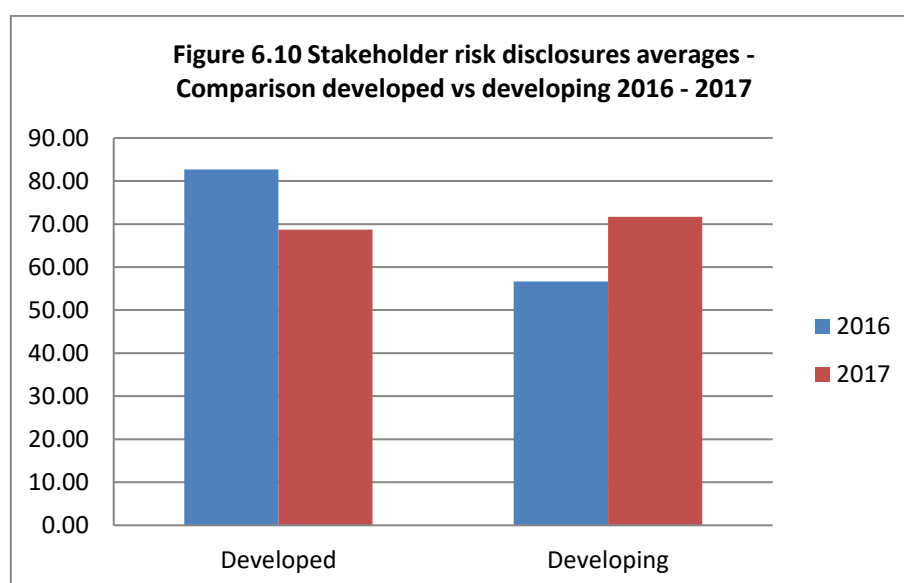


Figure 6.9 shows the average risk disclosures of the equivalent stakeholders by risk category for sub-sample companies in developing markets for the study period. In contrast to the equivalent trends for the sub-sample companies in developed countries, this figure shows that there is a constant increase in the average of the risk disclosures of the stakeholders for the three main risk categories of the stakeholders. Additionally, it is observed that for the year 2016 the social and economic risk category shows the higher score, however, for the year 2017 health and safety and social and environmental risk categories show the same score. It is important to notice that companies headquartered in developing countries tend to increase the quality of risk disclosure among the years, whereas companies based in developed countries tend to decrease their quality.



c) Stage three: Overall risk disclosures in developed and developing countries

Figure 6.10 shows the total average of quality of risk disclosure of stakeholder reports for 2016-2017 for the companies' sub-sample headquartered in developed and developing countries. It can observe different patterns in the chart. Firstly, the figure illustrates that the average of quality of risk disclosures for developed countries in 2016 are higher than the ones in developing countries. On the contrary, 2017 average score for developing countries is higher than the score for developed countries. Generally, while the total average of quality disclosure decreased for sub-sample companies in developed countries, it increased on average for developing market sub-sample companies from 2016 to 2017.



6.2 Descriptive statistics: DISC vs SIZE

This section shows the descriptive statistics for the dependent and independent variables, quality of risk disclosure (DISC) and firm size (SIZE), respectively. Scatter plots have been elaborated in order to show the different patterns between DISC and SIZE in shareholder and stakeholder reports, of the O&G sample companies headquartered in developed and developing countries for the study period.

6.2.1 Shareholder reports descriptive analysis

Table 6.3 shows DISC score reweighted (out of a possible 100 score maximum) for shareholder reports and the size by company.

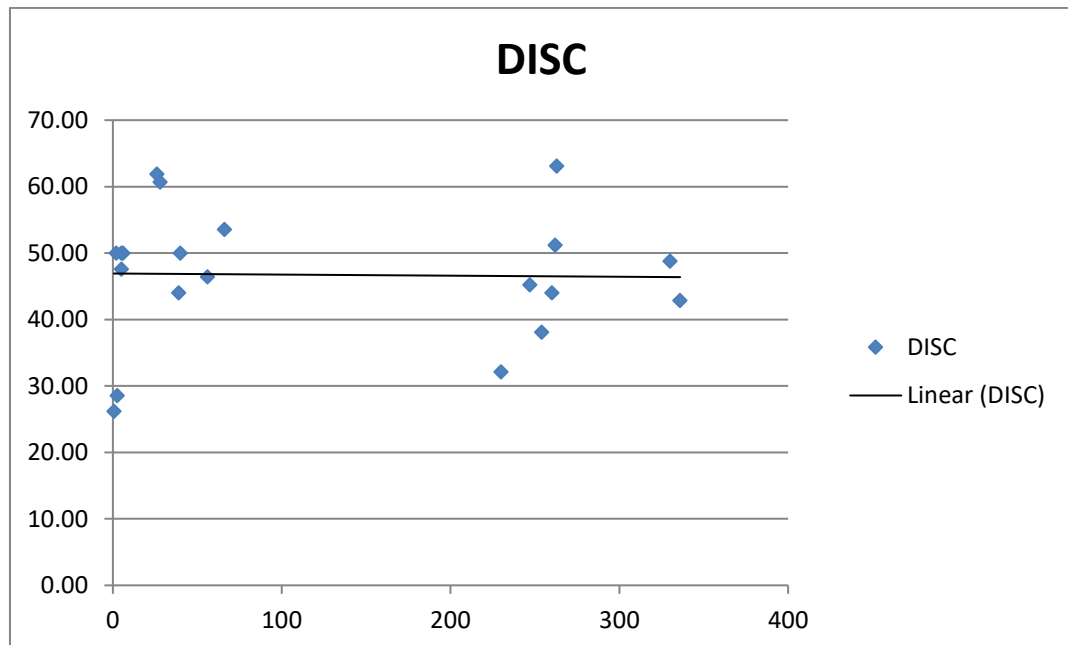
Table 6.3

Shareholder reports - Total DISC and SIZE scores by company 2016-2017

Company	Kelliher et al. (2012) Score 2016	Size 2016 USD m	Rewighted 2016	Kelliher et al. (2012) 2017 score	Size 2017 USD m	Rewighted 2017
Suncor	22.50	66	53.57	19.5	56	46.43
BP	26.50	263	63.10	21.5	262	51.19
Premier Oil	21.00	6	50.00	20.00	5	47.62
Exxon Mobile	20.50	330	48.81	18.00	336	42.86
Chevron	18.50	260	44.04	19.00	254	45.24
Avg Developed	21.80	180	51.90	19.00	182.6	46.67
YFP	26.00	26	61.90	25.50	28	60.71
Petrolera Pampa	21.00	5	50.00	21.00	2	50.00
Petrobras	19.00	247	45.24	13.50	230	32.14
OGX	11.00	0.63	26.19	12.00	2.57	28.57
Ecopetrol	21.00	40	50.00	18.50	40	44.04
Avg Developing	19.60	63.73	46.67	18.10	60.31	43.09

Figure 6.11 has been elaborated to show the main pattern between DISC and SIZE of shareholder reports for the sample companies headquartered in developed and developing countries for the studied period.

Figure 6.11
*DISC vs SIZE on shareholder reports for companies based in
developed and developing countries 2016-2017*



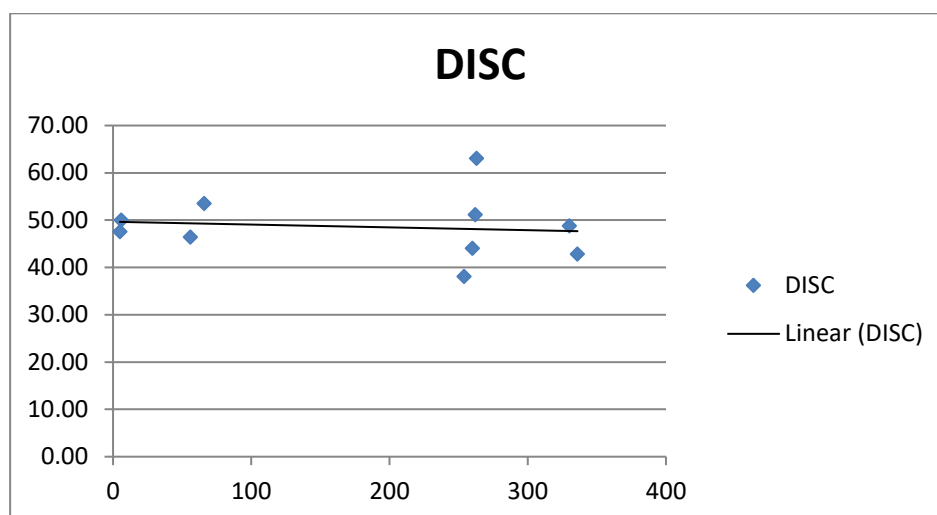
The chart shows that there is not relationship between the size of the company and the quality of risk disclosures in shareholder reports in O&G firms for the analysed period. This result differentiates between previous research regarding a positive relationship between quality of risk disclosures and firms' size as was predicted in P2a.

Then, additional patterns have been explored in order to evaluate the relationship between DISC and SIZE in developed and developing countries, separately.

Figure 6.12 illustrates the relationship between DISC and SIZE in shareholder reports of the sample companies headquartered in developed countries in 2016-2017.

Figure 6.12

DISC vs SIZE for Shareholder reports in developed countries 2016-2017

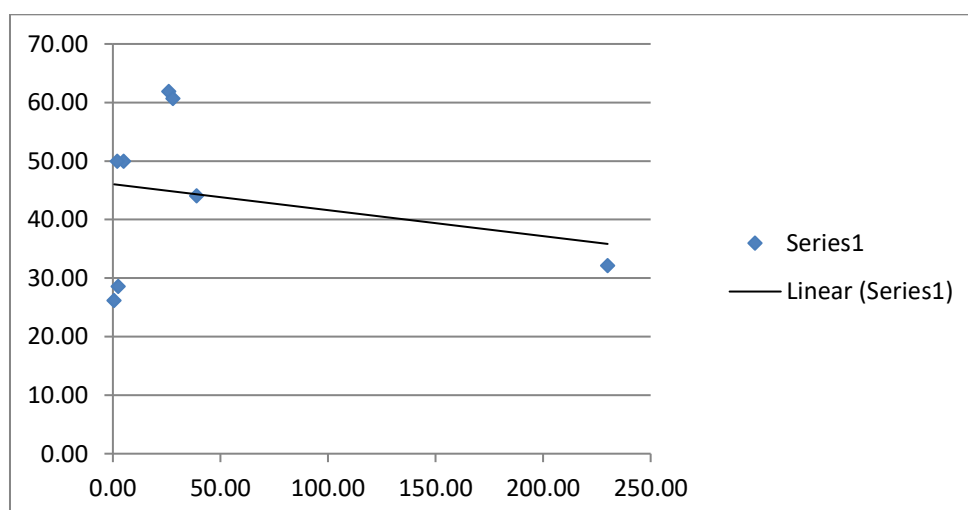


It can be observed a similar pattern that the one shown in the figure 6.12, indicating that there is no relationship in shareholder reports of the O&G sample companies headquartered in developed countries for the period 2016-2017. This illustration also differs with previous research, indicating that there is not relationship between DISC and SIZE in shareholder reports in developed countries.

Figure 6.13 show the relationship between DISC and SIZE in shareholder reports of the sample companies headquartered in developing countries in 2016-2017.

Figure 6.13

DISC vs SIZE in shareholder reports in developing countries 2016-2017



It can be observed a similar pattern as the one shown in developed countries, illustrating that there is no relationship between DISC and SIZE in shareholder reports of the O&G sample companies headquartered in developing countries for the period 2016-2017.

6.2.2 Stakeholder reports descriptive analysis

Table 6.4 shows the total quality of risk disclosures (DISC) score reweighted (out of a possible 100 score maximum) for stakeholder reports. This table includes the sample companies based in developed and developing countries for the years 2016 and 2017, respectively.

Table 6.4

Stakeholder reports - Total DISC and SIZE scores by company 2016-2017

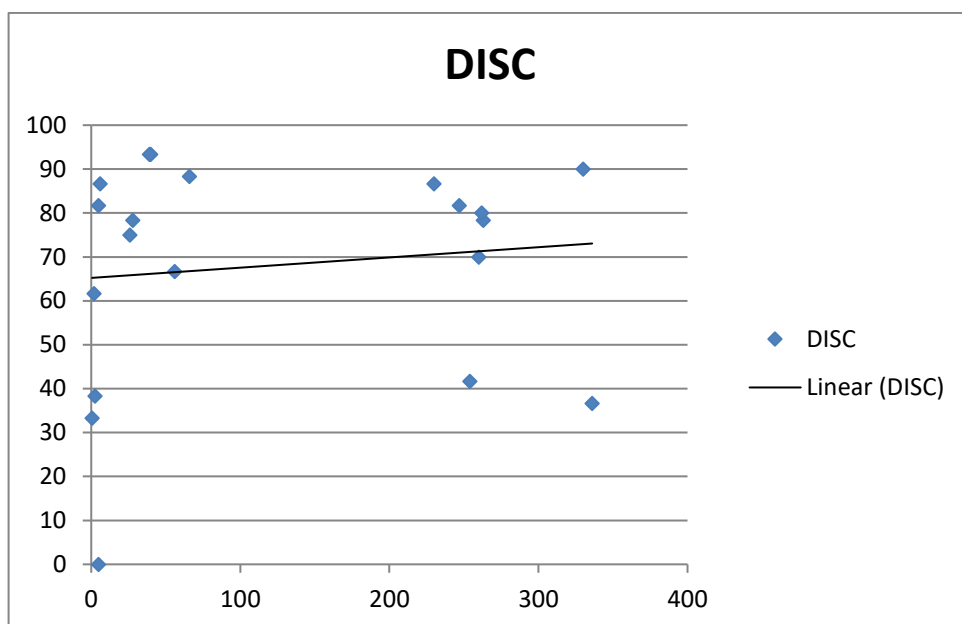
Company	IPIECA score 2016	SIZE	Rewighted 2016	IPIECA score 2017	Size	Rewighted 2017
Suncor	26.50	66	88.33	25.00	56	83.33
BP	23.50	263	78.33	24.00	262	80.00
Premier Oil	26.00	6	86.67	24.50	5	81.67
Exxon Mobile	27.00	330	90.00	11.00	336	36.67
Chevron	21.00	260	70.00	18.50	254	61.67
Developed AVG	24.80	180	87.13	20.6	182.6	68.7
YFP	22.50	26	75.00	23.50	28	78.33
Petrolera Pampa	0	5	0	18.50	2	61.67
Petrobras	24.50	247	81.67	26.00	230	86.67
OGX	10.00	0.63	33.33	11.50	2.57	38.33
Ecopetrol	28.00	40	93.33	27.50	40	91.67
Developing AVG	17.00	63.73	56.67	21.40	60.31	71.33

The previous table shows that the avg score of quality of risk disclosure in stakeholder reports in developed countries is higher than in developing countries for the year 2016. However, it can be observed that this pattern changes for the year 2017, showing a significant increase in the avg score of DISC, being higher than the avg of developed countries.

Figure 6.14 has been elaborated to show the main pattern between DISC and SIZE of stakeholder reports of the sample companies headquartered in developed and developing countries in the studied period.

Figure 6.14

DISC vs SIZE for Stakeholder report in developed and developing 2016-2017

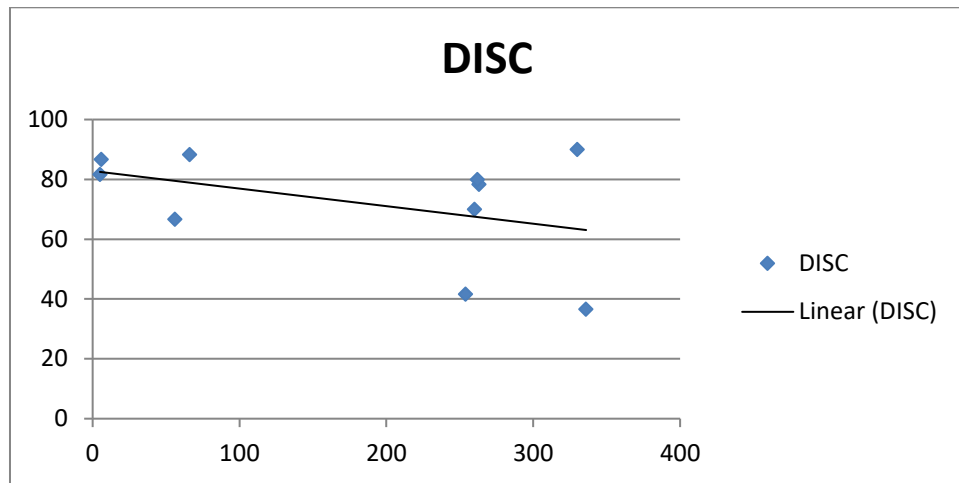


It can be observed in the scatter plot that there is no relationship between the size of the company and the quality of risk disclosures in stakeholder reports of O&G firms. This result is inconsistent with the predictions of P1b and the research carried out by Wuttichindanon (2017) and Khelif and Hussainey (2014), which state that there is a positive degree of association between firm size and CSR disclosures.

Then, additional patterns have been explored in order to evaluate the relationship between DISC and SIZE in developed and developing countries, separately.

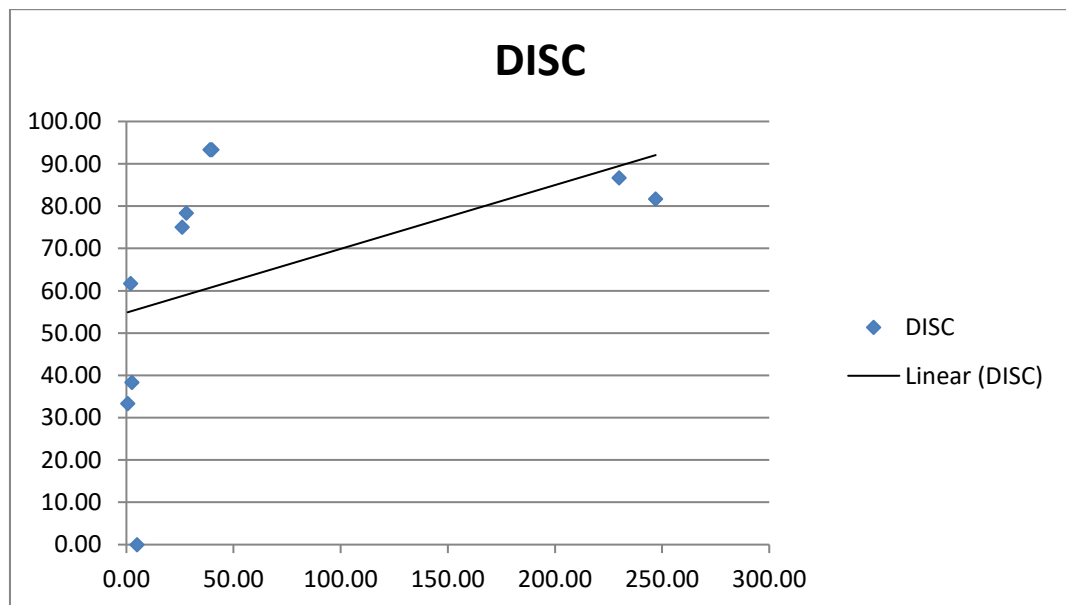
Figure 6.15 illustrates the relationship between DISC and SIZE in stakeholder reports of the sample companies headquartered in developed countries in 2016-2017.

Figure 6.15
DISC vs SIZE for Stakeholder report in developed 2016-2017



The graph is consistent with the patterns obtained in the previous scatter plots, showing that there is no relationship between the size of the company and the quality of risk disclosures in stakeholder reports in O&G firms.

Figure 6.16
DISC vs SIZE for Stakeholder report in developing 2016-2017



The graph shows a slightly different pattern and illustrates a small relationship between the size of the company and the quality of risk disclosures in stakeholder reports in O&G firms. This result is inconsistent with the predictions of P1b and the research carried out by Wuttichindanon (2017) and Khlif and

Hussainey (2014), that the degree of association between firm size and CSR disclosures are positively associated in developing countries.

6.3 Descriptive analysis: DISC vs Voluntary guidelines in Stakeholder reports

This section discusses the relationship between DISC and companies following voluntary guidelines (VOLUNT) in stakeholder reports of the O&G sample company headquartered in developed and developing countries for the studied period. This includes a graphic presentation of (a) total avg DISC score companies following or not IPIECA (2015) as a voluntary risk reporting guidelines for the O&G sector; (b) companies base in developed countries following or not voluntary guidelines; and (c) companies base in developing countries following or not voluntary guidelines. These graphs enable to analyse the different tendencies of the risk disclosures in developed and developing countries of companies following IPIECA as a voluntary guideline in O&G sector.

Table 6.5 indicates the total DISC (reweighted) by company indicating if the firm follows or not IPIECA (2015) as voluntary guidelines for producing their stakeholder reports in developed and developing countries for the analysed period.

Table 6.5
*DISC vs VOLUNT in stakeholder report in
the developed and developing companies' sample in 2016-2017*

LIST	Company	DISC Reweighted 2016	VOLUNT 2016	DISC Reweighted 2017	VOLUNT 2017
Developed	Suncor	88.33	N	66.67	N
	BP	78.33	Y	80	Y
	Premier Oil	86.67	Y	81.67	Y
	Exxon Mobile	90	Y	36.67	Y
	Chevron	70	Y	41.67	Y
Developing	YFP	75	N	78.33	Y
	Petrolera Pampa	0	N	61.67	N
	Petrobras	81.67	N	86.67	Y
	OGX	33.33	N	38.33	N
	Ecopetrol	93.33	N	91.67	N

It can be observed that most of the O&G companies headquartered in developed countries follow international voluntary guidelines IPIECA (2015) in both years, except the Canadian firm Suncor, that do not follow IPIECA (2015) guidelines in none of the analysed period. On the other hand, it can be noticed that none of the companies based in developing countries followed IPIECA guidelines for producing their stakeholder reports in 2016, however it can be observed that this change in 2017, were YFP and Petrobras started to follow IPIECA guidelines for elaborating their stakeholder report.

Tables 6.6 and 6.7 show the total avg score of the sample companies, classified in the ones that follow (VOLUNT) IPIECA (2015) for producing stakeholder reports and the ones that do not follow it (No-VOLUNT) for the 2016 and 2017, respectively.

Table 6.6
*Total avg DISC score of stakeholder reports for 2016
of companies following IPIECA (2015)*

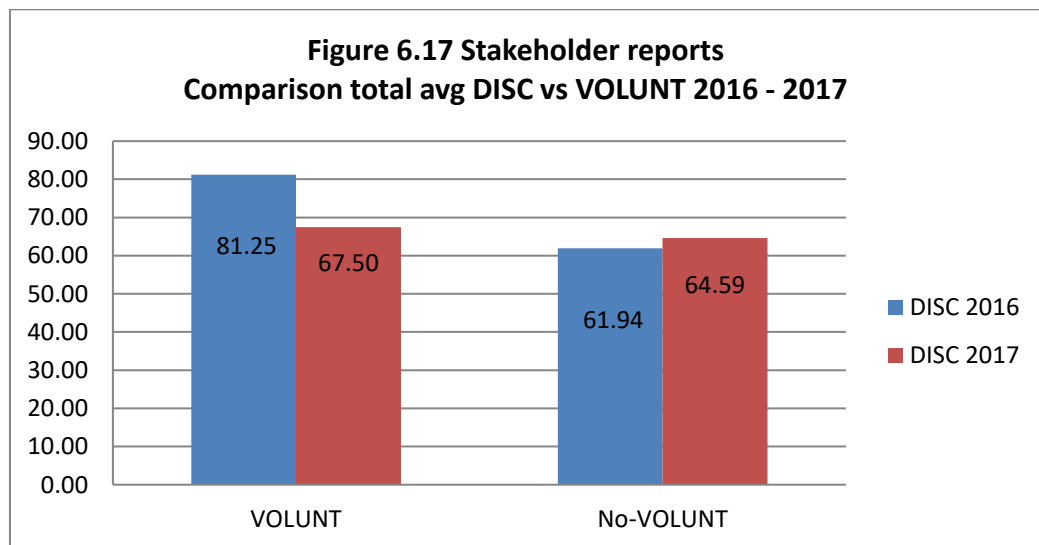
Company	LIST	DISC Reweighted 2016
BP	Developed	78.33
Premier Oil	Developed	86.67
Exxon Mobile	Developed	90
Chevron	Developed	70
Total avg DISC / VOLUNT		81.25
Suncor	Developed	88.33
YFP	Developing	75
Petrolera Pampa	Developing	0
Petrobras	Developing	81.67
OGX	Developing	33.33
Ecopetrol	Developing	93.33
Total avg DISC / No-VOLUNT		61.94

Table 6.7

*Total avg DISC score of stakeholder reports for 2017
of companies following IPIECA (2015)*

Company	LIST	DISC Reweighted 2017
BP	Developed	80
Premier Oil	Developed	81.67
Exxon Mobile	Developed	36.67
Chevron	Developed	41.67
YFP	Developing	78.33
Petrobras	Developing	86.67
Total avg VOLUNT		67.50
Suncor	Developed	66.67
Petrolera Pampa	Developing	61.67
OGX	Developing	38.33
Ecopetrol	Developing	91.67
Total avg No-VOLUNT		64.59

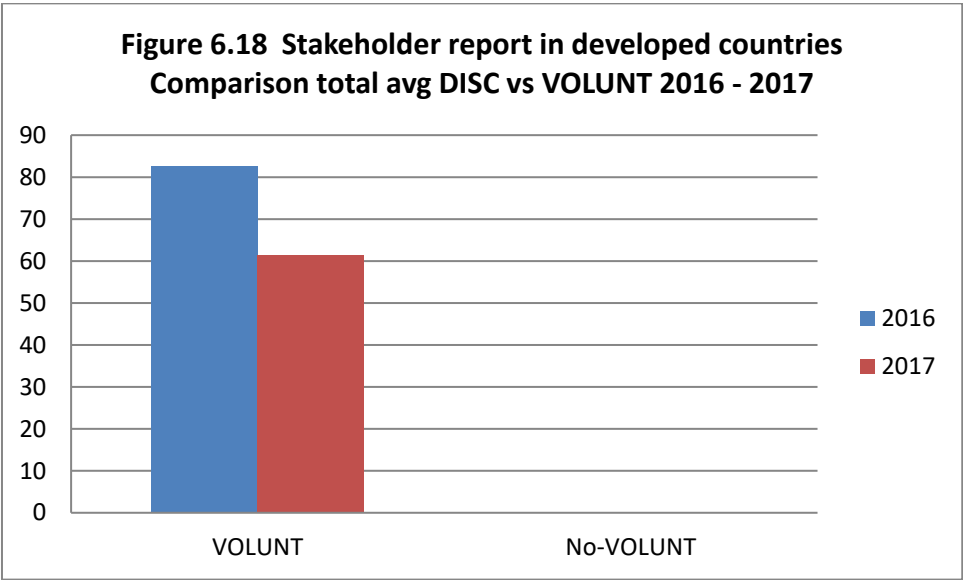
Based on previous results, figure 6.17 illustrates the relationship between the total avg of DISC of the companies that follow voluntary guidelines (VOLUNT) and the ones that not (No-VOLUNT) in the studied period.



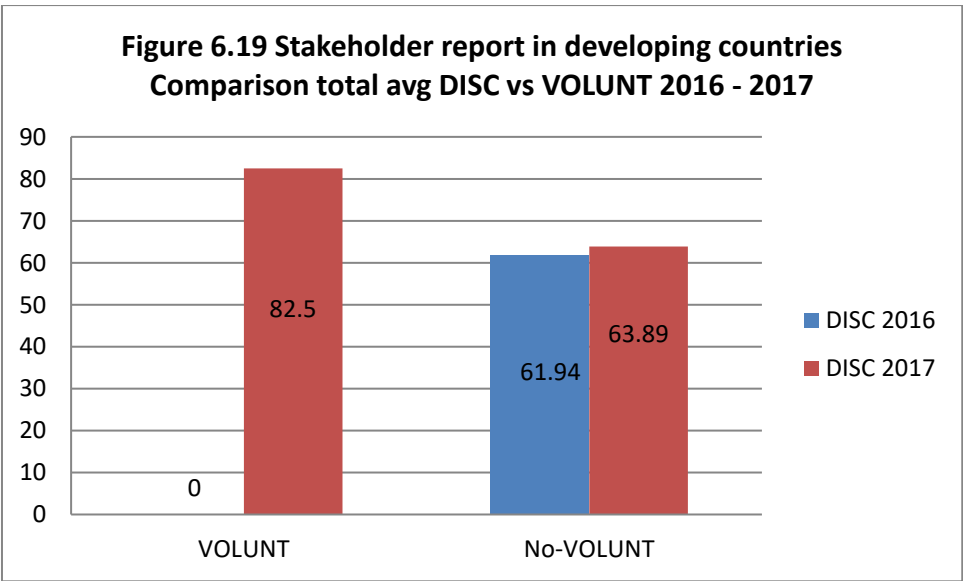
The figure shows that companies following voluntary guidelines report higher levels of quality of risk disclosure in both years. However, there are two important patterns observed in the total avg DISC in stakeholder reports in both sub-samples. Firstly, there is a decreased in the total avg DISC of companies following VOLUNT from 2016-2017. Secondly, it is observed an increase of total avg of DISC in companies not following VOLUNT from 2016 to 2017.

Then, figures 6.18 and 6.19 have been elaborated in order to analyse DISC in stakeholder reports for companies that follow the voluntary risk reporting guidelines in developed and developing countries, respectively.

Figure 6.18 shows the total avg of DISC of companies based in developed countries for the study period.



The chart shows that all companies based in developed countries follow IPIECA guidelines for voluntary risk disclosures in developed countries. It is also noticed that the total DISC score decreased from 2016 compared to 2017.



It is observed in the previous graphic that for the year 2016 the sample companies based in developing countries do not follow the IPIECA (2015) for producing their stakeholder reports. However, it is noticed for the year 2017 that this pattern changed, being the total avg of DISC higher for the companies that follow IPIECA (2015) than the ones that do not follow this voluntary guideline.

Chapter VII

Discussion

This chapter discuss the analysis of the results obtained in the previous chapter and their relationship with the relevant theories evaluated and the propositions elaborated. This has conducted to the following observations:

In relation to the quality of risk disclosures of O&G firms and their association with their stock listing status (LIST), various patterns have been observed in this research. Firstly, to what respects to shareholder reports in developed and developing countries, consistent with P1a it is observed that the total average of risk disclosures for firms headquartered in developed countries is slightly higher to the total avg of DISC in developing countries, however total avg DISC between both are very similar for both periods.

But it can be argued that the marginal difference between the total averages of risk disclosures in developed and developing countries is associated to accounting standards. Firstly, it is associated to the standardization and globalization of accounting principles in developing countries and the increase in the requirements for reporting transparent, relevant and useful disclosures in firms' annual reports. In the last decade, Latin American countries such as Brazil, Argentina and Colombia have changed from their local accounting principles (GAAP) adapted from the US, to international accepted accounting standards (IFRS), norms which align companies to report under globalised standardised accounting principles. GAAP are considered to be more ruled-based whereas IFRS are considered to be a more principle-based, meaning that capture and represent economic transitions in a better manner than GAAP. This economic transition is mainly related to accounting methods such as classification of liabilities, accountability of intangible assets, intangible and fixed assets measures, cost classification, among others, undoubtedly affect firms' economic transition, which consequently affects risk exposures and financial disclosures in the companies. This includes the studied liquidity, strategy, market, credit and operational risks identified by Kelliher et al. (2012).

Different patterns can be noticed in relation to the quality of risk disclosure in stakeholders' reports in each year analysed. In regard 2016, it is observed that

the total average DISC for companies based in developed countries is higher than the score for the companies based in developing countries, showing an inconsistent result in relation to proposition P1b. However, it is also noticed that in 2017 the total average of DISC is higher in developing countries than in developed countries, being this result consistent with the mentioned proposition. It can be said that the results obtained show that the quality of the information in annual and stakeholder reports in developed and developing countries are consistent with the assumptions of the neo-institutional theory, which show that companies based in developed and developing countries respond to high levels of regulatory, mimetic and regulatory pressures to reveal their different types of risks, in this sense it can be said that in the coercive aspect of Argentina and Brazil where the change of government could influence the problem of legitimacy in their organizations, therefore through isomorphic processes these organizations are socially rewarded with legitimacy.

In the case of Colombia, the company Ecopetrol is the company with the highest quality of disclosure of risks in both periods of analysis, this may be because the primary objective of the Colombian company at present is to achieve greater growth and competitiveness (Haro et al., 2016), which stimulates isomorphic processes in order to be successful in its sector.

It is also observed that the total average risk disclosures for companies based in developed countries is slightly higher, this may be due to a response to uncertainty, which is a powerful force that stimulates imitation (DiMaggio and Powell, 1983). Currently, in a globalized world where competition is on first order; to survive oil companies must be profitable, which causes imitation to be successful, being the result that these companies are increasingly homogeneous and highlight the structural isomorphism as an important consequence of both, competitive and institutional processes.

Competition is an approach that could explain why companies exhibit information about risk in their annual and stakeholder reports. In this last aspect, CSR is considered a voluntary practice for all the countries in the sample, so, based on the results obtained, it can be argued that the quality of the risk disclosures of O&G companies in the sample depends mainly on the voluntary guidelines adopted by each company in the sample for stakeholders reports, as well as the increase in pressures from stakeholders.

Additionally, firms' internal strategies have been changing, such as is the case of the firm Petrobras, which launched a social and environmental program in order to focus in the environmental and social areas to develop and improve activities with communities, government organizations and civil society. Also, the OGX rebranding plan from September 2017 orientated to its commitments with its stakeholders.

It is also seen a decreased in the total average score for the companies based in developed countries for the year 2017, being lower than the total average score for companies based in developing countries. This result is inconsistent with the proposition P1b, as there are various institutional forces that influenced the stakeholder reporting practices in the firms for this year. Such as is the case of the decision of Exxon Mobile to no produce a separate report to disclosure sustainability aspects. Further, an additional external factor influencing companies' strategies is the increases in the oil prices for the year 2017, that encourage the business to be more focused on their shareholders than in their stakeholders.

On the other hand in what refers to propositions P2a y P2b and the relationship between DISC and SIZE in shareholder and stakeholder reports, the scatter plots elaborated for the analysis show that there is no relationship between quality of risk disclosures and corporate size for the O&G companies in the sample, neither in developed nor in developing countries. This result is inconsistent with P2a and P2b and with the findings of Linsey and Shrives (2006); Abraham and Cox (2007), and Khlif and Hussainey (2016), who state that organisations' size influences the quality of disclosures. Additionally, this is also inconsistent with Botosan (1997), Hail (2002), Botosan and Plumlee (2005), Hail and Leuz (2006) and Rakow (2010) results, who noticed a negative relationship between the size and quality of risk information. Reverte (2015) considers that the size is measured through many indicators that reflect the dimension such as the total assets, number of shareholders, number of employees among others. Due to the present investigation only utilises total assets for measuring the company size, it can be said that this is not considered the only indicator for measuring the company size and that other factors also can influence in this characteristic and the quality of risk disclosures.

In the present investigation, this no relationship is related to the assumptions of corporate governance, which indicate that corporate governance policies in companies and their effectiveness can lead to a better reporting by showing transparency, accountability and fairness. It can be observed in the investigation in regard to shareholder reports DISC of the companies with the smallest SIZE has a total DISC score over the average of the companies in the sample, but relatively close. On the other side, the companies in the sample with the highest SIZE have the total DISC under the total average score. With these inconsistent results it can be said that SIZE measured in terms of total assets is not an indicator for the DISC in shareholder reports. Regarding the proposition P2b a similar pattern is observed, being the companies in the sample with small sizes such as Ecopetrol and Premier Oil one of the companies that disclosures relatively high quality of risk in its stakeholder reports and companies with the one of the biggest size in the sample, such as Petrobras and Exxon Mobile (2017) companies with score under the total average of DISC score.

These results also provide support for stewardship theory, as it is assumed that the professional managers of any company want to perform professionally and act effectively in spreading the risks with the interest placed in the organization. In relation to the present study based on these points, the theory of management and corporate governance assumes that the professional directors of O&G companies want to perform efficiently and act as effective administrators of the resources of the organization, which benefit the owners and directives in the goals and objectives that will be achieved by the administrator, independently of the firm size.

In relation to the last proposition, it can be observed in both periods analysed the main source used for voluntary sustainability reporting for all companies in the sample in both periods are the G4 guidelines issued in 2016, which are guidelines that asses sustainability reporting addressed to all industries. Additionally, it is noticed that in both periods all the companies in the sample headquartered in developed countries used IPIECA (2015) as voluntary guidelines for their stakeholder reporting. In contrast this O&G voluntary guideline has not been used in any of the companies in the sample in developing countries for producing their sustainability reports in this year. Based on the previous discussion it can be said that institutional pressures and the no

adoption of industry specific voluntary guidelines (IPIECA) has influenced the DISC in companies based in developing countries. However, another pattern is observed for 2017, since the average DISC score obtained by the stakeholder reports, as there is an evident increase in the score of the companies in the sample based in developing countries.

This year it can be noted that one of the companies based in Argentina (YPF) and one of the companies based in Brazil (Petrobras), began to implement the specific guidelines of the industry to prepare their sustainability reports, which produces a significant increase in the total average DISC score of the stakeholders. Based on the above discussion, it can be said that the non-adoption of industry-specific voluntary guidelines that cause a decline in business development this year as IPIECA guidelines is a focused guide for O&G in terms of CSR reporting.

It can be said that, when developing certain pressures from stakeholders, the strategies for companies to increase the quality of their reports affect the strategies. For example, it is observed that both Argentine companies have significantly increased their score. It can be argued that this is also associated with recent changes in government, which has generated more institutional pressures on companies to show transparency and accountability to their stakeholders. On the other hand, both Brazilian companies have also increased their total DISC score due to the same factor, since there was a new transactional government since September 2016 that generates institutional pressures among the companies.

In addition, internal strategies have been changing among companies, as is the case of the firm Petrobras, which launches a social and environmental program to focus on environmental and social areas to develop and improve activities with communities, government organizations and civil organizations. society. The OGX brand change plan from September 2017, oriented to its commitments with the interested parties, has also been a factor that influenced the increase of the DISC.

There is also a decrease in the total average score for companies based in developed countries for the year 2017, being lower than the total average score for companies based in developing countries. This result is consistent with proposition P1a, since there are several institutional forces that influenced the

information practices of those interested in companies for this year. Such is the case of Exxon Mobile's decision not to produce a separate report to reveal aspects of sustainability. An additional external factor that influences is the increase in oil prices for 2017, which encourages the business to focus more on its shareholders than on its stakeholders.

Chapter VIII

Conclusions

This research compares the quality of risk disclosures in shareholder and stakeholder reports for O&G listed companies based in developed (UK, US and Canada) and developing countries (Colombia, Brazil and Argentina). The study evaluated the relationship between the quality of risk disclosures and the company headquartered status (firm size) and their propensity to follow IPIECA (2015) as a voluntary industry guideline for producing stakeholder reports. It utilises the quantity of risk key words as indicative of quality of risk disclosures following Baretta and Bonzolan (2004) approach. Different factors influencing the quality of risk disclosures in shareholder and stakeholder reports between developed and developing countries have been found in this multi-country research. This investigation provides contribution to exiting literature on this topic by identifying some of the influencing factors of the quality of risk disclosures in O&G companies.

A framework for the analysis shareholder and stakeholder reports is proposed in order to measure the quality of risk disclosures that provides voluntary and mandatory dimensions. For each type of report (shareholder and stakeholder) and relevant type of risk, the discussed index has been calculated for measuring the intensity of those risk aspects communicated by firms. The overall index result of each report can help stakeholders to profile risk disclosures of every company in regards the information supplied. This overall result provides relevant information to internal key strategic decision makers within organizations and support them in the decision-making process by looking at the presented analysis method discussed in this investigation. Therefore, it is contended that the index calculated, provides also a forward-looking picture and an alternative perspective for external parties that can be of interest in the analysis of the business

Risk disclosures in O&G firms are associated to a various internal and external factors that influence the company way of reporting their financial and non-financial risks to their stakeholders. In what refers to the shareholder reports, it

can be concluded that companies based in developed countries tend to report higher quality of risk disclosures, however the quality of risk disclosures is not significantly different due to the accounting standards followed for presenting financial reports. Firms based in developed and developing countries which report under international accepted accounting standards (IFRS) such as is the case of Canada, the UK, Colombia, Argentina and Brazil, tend to approach and disclose their financial risks in a similar way and produces higher quality of risk disclosure. The fact of being principle based allows the companies to clarify more financial areas that are unclear, in order to minimize the company risks exposures and report them to the company shareholders.

The findings of the evaluation of the stakeholder reports suggest that the quality of risks disclosures is highly associated with the adoption by companies to report their non-financial risks through the use of industry-specific voluntary guidelines for their sustainability reporting. IPIECA has developed its guidelines orientated to the principal risk exposures in the O&G sector, being these associated with the activities that companies perform. This makes that companies that report their principal non-financial risks disclosures are highly focused to environmental; health and safety and social; and economic in the O&G industry which in some cases might differ from other industries.

Additionally, the findings also show that the quality of risk disclosure can be also influenced for stakeholders' pressures that cause businesses to change their reporting approach, in both developed and developing countries. These have a significant impact in the companies' internal strategies, at the time of reporting transparency and accountability of their risks.

Company size in terms of total assets is not an influencing company characteristic for quality of risk disclosure neither for shareholder reports nor for stakeholder report for companies, independently of their firm listing status. These findings were not expected, as previous studies proved that that as bigger is the size of the firm more stakeholders would be interested in the companies' transparent and accountable information (Lindsey and Shrivs, 2006; Amran et al., 2009). However, as earlier studies presented by Botosan (1997), Hail (2002) and Botosan and Plumlee (2005), and consistent with stewardship theory and corporate governance, it can be concluded that professional managers of O&G businesses perform as best possible and act as effective resource managers of

the organization. This, to benefit owners, directives and other shareholders, in the goals and objectives that will be achieved by the administrator, independently of the firm's size or if the company is headquartered in a developed or developing country. These findings were observed in both type of reports and for financial and non-financial risks disclosures.

Findings suggest that the use of O&G voluntary guidelines (IPIECA), develop and promote industry good practices in terms of risk reporting and enhance the quality of companies' risk reporting. This O&G sustainability guide supports companies to better understand and improve their social and environmental performance, providing constant improvements for the industry performance to what CSR and its risks associated refers. This applies for all companies in the O&G sector, independently of their location.

Finally, future lines of research can be proposed, among which can refer when analysing the performance of companies that have opted to follow an isomorphism in the disclosure of the quality of risk information.

On the other hand, another suggested line of research is to analyse more deeply the strength or influence that organizations have to follow the guidelines of IPIECA.

In this context, it should be examined why companies in developed countries such as BP obtain a higher average of risk disclosures in contrast, with the US Chevron firm based in USA, which showed the lowest risk disclosure index. This is possible to focus on if Chevron does not carry out isomorphic processes and if BP uses them.

Another line of research is to examine in depth the causes of the reduction in the quality of the risk disclosures for the year 2017 in stakeholder reports in developed countries, in contrast with the companies based in developing countries which tend to increase the quality of risk disclosure. The query would be: why developing countries tend to increase the quality of risk disclosures in stakeholder reports?

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Appendix X1.1

Shareholder report index disclosure by company and risk category

developed countries – year 2016

Disclosure index construction - Shareholder Reports 2016			Max	Weight	Suncor Energy Canada	British Petroleum plc (BP) United Kingdom	Premier Oil plc (PMO) United Kingdom	Exxon Mobile United States	Chevron United States	Avg	StdDev
ID	Category	Kelliher et al. items	score	score	Kelliher et al	Kelliher et al	Kelliher et al	Kelliher et al	Kelliher et al	score	score
1	Market Risk	1 equity risk; 2 property; 3 bond; 4 commodity; 5 foreign exchange; 6 inflation 7 interest rate	7	14.29%	5.5	6	6	5.5	4.0	5.4	0.82
2	Credit Risk	8 counterparty; 9 default; 10 bad and/or doubtful debt; 11 unpaid rent; 12 credit rating; 13 overdraft; 14 re-negotiation	7	14.29%	3	3	1.5	1.5	1	2.0	0.94
3	Business Risk	15 energy; 16 safety; 17 environment; 18 climate; 19 technology; 20 disaster; 21 health	7	28.57%	6.5	7	6	6	6	12.6	0.89
4	Liquidity Risk	22 liquidity strain; 23 solvency; 24 withdraws; 25 collateral; 26 impairment; 27 cash shortfall; 28 illiquidity	7	14.29%	2.5	3.5	2	2	2	2.4	0.65
5	Operational Risk	29 operational loss; 30 fraud; 31 control failure; 32 defect; 33 system error; 34 business disruption; 35 asset damage	7	14.29%	0	1.5	1	0.5	1	0.8	0.57
6	Strategy Risk	36 macroeconomic impact; 37 competitor; 38 political; 39 regulatory; 40 reputation/brand; 41 fiscal; 42 tax	7	14.29%	5	5.5	4.5	5	4.5	4.9	0.42
	TOTAL ALL		49	100%	22.5	26.5	21	20.5	18.5	28.1	3.42

Appendix X1.2

Shareholder report index disclosure by company and risk category

developed countries – year 2017

Disclosure index construction			Max	Weight	Suncor Energy	British Petroleum plc (BP)	Premier Oil plc (PMO)	Exxon Mobile	Chevron	Avg	StdDev
Shareholder Reports 2017					Canada	United Kingdom	United Kingdom	United States	United States		
ID	Category	Kelliher et al items	score	score	Kelliher et al	score	Kelliher et al	Kelliher et al	Kelliher et al	score	score
1	Market Risk	1 equity risk; 2 property; 3 bond; 4 commodity; 5 foreign exchange; 6 inflation 7 interest rate	7	14.29%	5.5	5	6	5.5	4	5.1	0.85
2	Credit Risk	8 counterparty; 9 default; 10 bad and/or doubtful debt; 11 unpaid rent; 12 credit downgrade; 13 overdraft; 14 re-negotiation	7	14.29%	2	1.5	2	0.5	0.5	1.1	0.75
3	Business Risk	15 energy; 16 safety; 17 environment; 18 climate; 19 technology; 20 disaster; 21 health	14	28.57%	6	7	6	6	6	12.3	0.50
4	Liquidity Risk	22 liquidity strain; 23 solvency; 24 withdraws; 25 collateral calls; 26 impairment liquid; 27 cash shortfall; 28 illiquidity	7	14.29%	1	1.5	0.5	0.5	0.5	0.8	0.50
5	Operational Risk	29 operational loss; 30 fraud; 31 control failure; 32 defect; 33 system error; 34 business disruption; 35 asset damage	7	14.29%	0.5	1.5	1	1	1	1.1	0.25
6	Strategy Risk	36 macroeconomic impact; 37 competitor; 38 political; 39 regulatory; 40 reputation/brand; 41 fiscal; 42 tax	7	14.29%	4.5	5.5	4.5	4.5	4	4.6	0.63
	TOTAL ALL		49	100%	19.5	21	20	18	18	25.0	2.58

Appendix X2.1

Shareholder report index disclosure by company and risk category

Developing countries – year 2016

Disclosure index construction					YPF	Petrolera Pampa S.A	Petrobras	OGX	Ecopetrol		
Shareholder Reports-developing markets 2016			Max	Weight	Argentina	Argentina	Brazil	Brazil	Colombia	Avg	StdDev
ID	Category	Kelliher et al items	score	score	Kelliher et al	Kelliher et al	Kelliher et al	Kelliher et al	Kelliher et al	score	score
1	Market Risk	1 equity risk; 2 property; 3 bond; 4 commodity; 5 foreign exchange; 6 inflation 7 interest rate	7	14.29%	6	5.5	5	3.5	2.5	4.5	1.46
2	Credit Risk	8 counterparty; 9 default; 10 bad and/or doubtful debt; 11 unpaid rent; 12 credit rating; 13 overdraft; 14 re-negotiation	7	14.29%	4	3.5	2	1	2.5	2.6	1.19
3	Business Risk	15 energy; 16 safety; 17 environment; 18 climate; 19 technology; 20 disaster; 21 health	14	28.57%	6	5.5	3	1.5	6.5	9.0	4.30
4	Liquidity Risk	22 liquidity strain; 23 solvency; 24 withdraws; 25 collateral; 26 impairment; 27 cash shortfall; 28 illiquidity	7	14.29%	3	1.5	2.5	1.5	3	2.3	0.76
5	Operational Risk	29 operational loss; 30 fraud; 31 control failure; 32 defect; 33 system error; 34 business disruption; 35 asset damage	7	14.29%	2	1	1.5	1	1.5	1.4	0.42
6	Strategy Risk	36 macroeconomic impact; 37 competitor; 38 political; 39 regulatory; 40 reputation/brand; 41 fiscal; 42 tax	7	14.29%	5	4	5	2.5	5	4.3	1.10
TOTAL ALL			49	100%	26	21	19	11	21	24.1	7.39

Appendix X2.2

Shareholder report index disclosure by company and risk category developing countries – year 2017

Disclosure index construction			Max	Weight	YPF	Petrolera Pampa S.A	Petrobras	OGX	Ecopetrol	Avg	StdDev
Shareholder Reports-developing markets 2017			score	score	Argentina	Argentina	Brazil	Brazil	Colombia	score	score
ID	Category	Kelliher et al items	score	score	Kelliher et al	Kelliher et al	Kelliher et al	Kelliher et al	Kelliher et al	score	score
1	Market Risk	1 equity risk; 2 property; 3 bond; 4 commodity; 5 foreign exchange; 6 inflation 7 interest rate	7	14.29%	6	5.5	2	5	3	4.3	1.72
2	Credit Risk	8 counterparty; 9 default; 10 bad and/or doubtful debt; 11 unpaid rent; 12 credit downgrade; 13 overdraft; 14 re-negotiation	7	14.29%	3.5	3	1	1.5	1.5	2.1	1.08
3	Business Risk	15 energy; 16 safety; 17 environment; 18 climate; 19 technology; 20 disaster; 21 health	7	28.57%	6.5	6	4	1.5	7	9.7	4.38
4	Liquidity Risk	22 liquidity strain; 23 solvency; 24 withdraws; 25 collateral calls; 26 impairment liquid; 27 cash shortfall; 28 illiquidity	7	14.29%	1.5	0.5	0.5	0.5	1	0.8	0.45
5	Operational Risk	29 operational loss; 30 fraud; 31 control failure; 32 defect; 33 system error; 34 business disruption; 35 asset damage	7	14.29%	2	1.5	1	1	1.5	1.4	0.42
6	Strategy Risk	36 macroeconomic impact; 37 competitor; 38 political; 39 regulatory; 40 reputation/brand; 41 fiscal; 42 tax	7	14.29%	6	4.5	5	2.5	5	4.6	1.29
TOTAL ALL			49	100%	25.5	21	13.5	12	19	22.9	7.54

Appendix X3.1

Stakeholder report index disclosure by company and risk category

Developed countries – year 2016

ID	Category	IPIECA items	Max	Weight	Exxon Mobile	British Petroleum plc (BP)	Premier Oil plc (PMO)	Suncor Energy	Chevron	Avg	StdDev
			score	%	United States	United Kingdom	United Kingdom	Canada	United States	score	score
1	Environmental Risks	1 Biodiversity; 2 climate change; 3 energy; 4 ecosystems 5 water; 6 local environment; 7 waste; 8 spill; 9 emission; 10 decommission	10	25.00%	9.0	7.5	9.0	9.0	7.5	8.4	0.82
2	Health and Safety Risks	1 protection; 2 participation; 3 health; 4 injury; 5 illness; 6 hazardous; 7 recycling; 8 stewardship; 9 accident; 10 toxic; 11 incident; 12 explosion; 13 fatality; 14 fire; 15 discharge; 16 event; 17 deviation; 18 safety 19 exposure; 20 hygiene	20	50.00%	13.0	11.0	11.5	15.5	9.5	12.1	2.27
3	Social and Economic Risks	1 Community; 2 society; 3 local; 4 human rights; 5 ethic; 6 corruption; 7 transparency; 8 workforce/labour 9 grievance 10 Penalty/compensation	10	25.00%	9.5	9.0	9.0	9.0	7.0	8.7	0.97
TOTAL ALL		IPIECA items	40	100%	32	28	30	34	24	29.2	3.67

Appendix X3.2

Stakeholder report index disclosure by company and risk category

Developed countries – year 2017

ID	Category	IPIECA items	Max	Weight	Exxon Mobile	Premier Oil plc (PMO)	Suncor Energy	Chevron	British Petroleum plc (BP)	Avg	StdDev
			score	%	United States score	United Kingdom score	Canada score	United States score	United Kingdom score		
1	Environmental Risks	1 Biodiversity; 2 climate change; 3 energy; 4 ecosystem; 5 water; 6 local environment; 7 waste; 8 spill; 9 emission; 10 decommission	10	25.00%	4	8	7	7	8	6.8	1.64
2	Health and Safety Risks	1 protection; 2 participation; 3 health; 4 injury; 5 illness; 6 hazardous; 7 recycling; 8 stewardship; 9 accident; 10 toxic; 11 incident; 12 explosion; 13 fatality; 14 fire; 15 discharge; 16 event; 17 deviation; 18 safety 19 exposure; 20 hygiene	20	50.00%	4	12.5	10.5	10.5	8.5	9.2	3.23
3	Social and Economic Risks	1 Community; 2 society; 3 local; 4 human rights; 5 ethic; 6 corruption; 7 transparency; 8 workforce/labour 9 grievance 10 Penalty/compensation	10	25.00%	4	8.5	6.5	6.5	9	6.9	1.98
TOTAL ALL		IPIECA items	40	100%	12	29	24	24	26	22.9	6.43

Appendix X3.3

Stakeholder report index disclosure by company and risk category

Developing countries – year 2016

ID	Category	IPIECA items	Max	Weight	YPF	Petrolera Pampa S.A	Petrobras	OGX	Ecopetrol	Avg	StdDev
			score	%	Argentina Score	Argentina Score	Brazil Score	Brazil Score	Colombia Score	score	score
1	Environmental Risks	1 Biodiversity; 2 climate change; 3 energy; 4 ecosystem; 5 water; 6 local environment; 7 waste; 8 spill; 9 emission; 10 decommission	10	25.00%	8.0	0.0	8.0	1.5	9.5	5.4	4.32
2	Health and Safety Risks	1 protection; 2 participation; 3 health; 4 injury; 5 illness; 6 hazards; 7 recycling; 8 stewardship; 9 accident; 10 toxic; 11 incident; 12 explosion; 13 fatality; 14 fire; 15 discharge; 16 event; 17 deviation; 18 safety 19 exposure; 20 hygiene	20	50.00%	11.0	0.0	13.0	8.0	15.5	9.5	5.98
3	Social and Economic Risks	1 Community; 2 society; 3 local; 4 human rights; 5 ethic; 6 corruption; 7 transparency; 8 workforce/labour 9 grievance; 10 Penalty/compensation	10	25.00%	8	0.0	9.0	4.5	10.0	6.3	4.09
TOTAL ALL		IPIECA items	40	100%	27	0	30	14	35	21.2	14.17

Appendix X3.3

Stakeholder report index disclosure by company and risk category

Developing countries – year 2017

ID	Category	IPIECA items	Max	Weight	YPF	OGX	Petrolera Pampa S.A Argentina	Ecopetrol	Petrobras	Avg	StdDev
			score	%	Argentina Score	Brazil Score	Score	Colombia Score	Brazil Score	score	score
1	Environmental Risks	1 Biodiversity; 2 climate change; 3 energy; 4 ecosystem; 5 water; 6 local environment; 7 waste; 8 spill; 9 emission; 10 decommission	10	25.00%	7	2	7	9	7.5	6.5	2.65
2	Health and Safety Risks	1 protection; 2 participation; 3 health; 4 injury; 5 illness; 6 hazards; 7 recycling; 8 stewardship; 9 accident; 10 toxic; 11 incident; 12 explosion; 13 fatality; 14 fire; 15 discharge; 16 event; 17 deviation; 18 safety 19 exposure; 20 hygiene	20	50.00%	10.5	8	11.5	15	13.5	11.7	2.71
3	Social and Economic Risks	1 Community; 2 society; 3 local; 4 human rights; 5 ethic; 6 corruption; 7 transparency; 8 workforce/labour 9 grievance; 10 Penalty/compensation	10	25.00%	6.5	5	5	9	8.5	6.8	1.89
TOTAL ALL		IPIECA items	40	100%	24	15	24	33	30	25.0	6.85