

# BP Environmental Reporting in Response to Deepwater Horizon Oil Spill: An Application of Legitimacy Theory

Abdullah Masood

College of Business Administration,  
Northern Border University, Arar, Saudi Arabia  
Faculty of administrative science, university  
of Aden, Aden, Yemen

Nahg Abdul Majid Alawi

University of Aden, Yemen, Geomatika  
University, Malaysia

Ihab Akl Elmitwalli Akl

Geomatika University, Malaysia

## Abstract

The main aim of the present study is to give a picture of BP environmental reporting within the period of eleven years (2006 to 2016), as well as examines the effect of the Deepwater Horizon Incident on BP environmental reporting, mainly for the test of applicability of the theory of legitimacy. As found in literature, content analysis procedures are employed to measure environmental reporting level every year via determining the level of voluntary corporate environmental disclosure that is stated in the annual as well as suitability report through Global Reporting Initiatives (GRI) indicator. As such, the results of the present study indicate average in term of BP environmental reporting level. However, in response to the 2010 Gulf Deepwater Horizon oil spill disaster, the BP has high the environmental reporting, thus can be explained using legitimacy theory. More so, with regards to employing a longitudinal approach in carrying out research in the oil and gas industry, the present study appears to be the first. Hence, it is expected that the present finding will be generally used to further improve the environmental reporting in BP, as well as other oil and gas companies.

**Keywords:** British Petroleum, Environmental reporting, Deepwater Horizon oil spill

## Introduction

There has been a recent attention towards the environment, which has escalated within the last decades, thereby resulting to the public demand in verifying how industries report and evaluate their environmental disclosure (Cox, 2001). Deegan et al. (2000), stated that the matter of the environment has become increasingly important in recent time for companies to manage. This is because several stakeholder groups have perpetually put pressure on companies to accept accountability for the environmental impact of their operations.

Oil exploration, undeniably whether it is offshore or land-based drilling can possibly contribute to terrible environmental destruction as well as degradations. Based on this fact, it is common for oil and gas industry to be actively involved as one of the leading industries that promote corporate social responsibility (CSR). For every part of the steps in oil and gas industry, there are many issues related to the environment that should be of concern starting from conducting surveys to find oil location, oil drilling and processing, logistics and

transportation, pollution of air as part of the emissions from refineries as well as oil spillage issues. In the mass media, public are often being notified about oil spillages that come from the risky exploration and production of offshore oil and gas industry. Safety measures have been taken over the years with utilization of modern technology and equipment, but unfortunately, spillage issues still happen within the industry. Among the infamous cases of oil spillage that attracted the attention of the world was Deepwater Horizon oil spillage, or popularly known as the Gulf of Mexico oil spillage. That incident was recorded as one of the world's most substantial offshore oil spillage to the extent that the oil spilled into marine water (Ramseur & Hagerty, 2013; Arora & Lodhia, 2016). In the US history, the largest marine spillage was recorded as twenty times worse than the size of the Exxon Valdez spillage which happened in Alaska in the year 1989 (Turner et al., 2014). The incident caused not only casualty of eleven crew members, it eventually led to bad impacts on the economics as well as cause damages to the environmental (Burggren et al., 2015). The damage caused to the environment from the Deepwater Horizon oil spillage which happened in the year 2010 was too extensive, where 25 national wildlife refuges were endangered. Traces of oil spillage was even found on five Gulf States' shores and naturally caused deaths of thousands of birds, fish, as well as reptiles around the area.

Previous studies have shown that companies normally disclose environmental crisis that happened within their operations in the annual report as a measure to regain their operation's legitimacy as well as to maintain their company's image and reputation (Patten, 1992). By coming clean in incidents that happened, the public perception of the company will be neutralized. Most of the times, by admitting the mistakes that happened in their operation, the companies will be spared from legal actions by local community. This action is prominent in ensuring the company's success in years to come (Deegan et al., 2000). Apart from that, there is also strategic methods to disclose these kinds of information in order to gain maximized legitimacy as mentioned by O'Donovan (2002). For example, Summerhays and De Villiers (2012) exposed the method of using constructive reports done by six of the world's largest oil and gas companies to help enhance their positive image to the society in the issue of Deepwater Horizon oil spillage that happened in year 2010. That study also indicated that the companies disclaimed any responsibility of environment related crime and averted people's attention from claiming their companies to be involved in the crime incidents to protect their companies' good image among the public.

From previous literature, it is well understood that in such situations, it is very imperative for companies involved in environmental issues to clarify further their environmental reporting as it is very difficult to be disclosing internal information but at the same time to be able to clarify the situation to the public (Unerman, 2008). Previous study by Summerhays and De Villiers (2012) highlighted the necessity for a research on complexity of environmental disclosure decisions by the oil and gas companies' management upon any the incident of oil spill in the industry. Therefore, based on an extensive review of the literature in the area of environmental disclosure, this paper proposes that BP is more likely to enhance their company's level of environmental reporting after the incident that occurred during Deepwater Horizon oil spillage in year 2010 compared to the years before the incident. To be able to demonstrate that, this study utilizes Lindblom's (1994) legitimacy theory to elucidate that after the Deepwater Horizon oil spill, BP is more likely to employ various strategies of environmental reporting to educate and inform to the public about the effort on changes they made in their organization's performance and activities to help change the public's perceptions. Therefore, this research aims to investigate BP's environmental reporting to determine whether the company's environmental reporting showed any improvements or not as a result of the incidents.

This research contributes to current literature in the area of environmental reporting in several ways; first, to our knowledge, our study is the first to empirically examine the environmental reporting of a corporate organization in response to an environmental incident. Secondly, this research employs a longitudinal approach to examine the trend of environmental disclosure in annual reports whereas most of the previous studies found in the literature employed cross sectional approach. To achieve the study's main objectives, this study imposes the main study question as following; "What is the extent of BP environmental reporting during the eleven years from 2006 to 2016? and "Has the environmental reporting improved due to the Deepwater Horizon oil spill?"

This study is an extension of the research conducted by Summerhays and De Villiers (2012) in environmental reporting practices and environmental disclosure based on 2010 Deepwater Horizon oil spillage incident. However, this study is cross sectional in nature and only focuses on the information displayed in annual report. This study intends to contribute to current literature by using longitudinal approach in investigating environmental reporting trend which offers better clarification on environmental reporting (Gray et al., 1995). This study

seeks to examine environmental reporting practices made using other medium for the report, other than the annual report. This paper is organized as follows; firstly, the paper presents theoretical framework for environmental disclosure by using legitimacy theory. Second, the study deliberates the hypotheses development, followed by research design by using content analysis. Thirdly, discussions of the study findings are presented. Finally, summary and conclusions are discussed.

### Literature review

Legitimacy serves as an organizational resource (Hearit, 1995) and failing to fulfill community's expectations can cause legitimacy gap (Wilmschurst & Frost, 2000). In the situation of a company, legitimacy gap can affect the company's operation capability (Deegan, 2009). Organizational legitimacy will minimize the possibility of product boycotts and any other kinds of actions that will tarnish corporate image of a company (Elsbach, 1994). Based on these facts, companies have started to regain trust from the public and ultimately gain legitimacy by conducting social and environmental disclosure (Cho & Patten, 2007; Deegan, 2007; Bakar & Ameer, 2011; Khan et al., 2013).

To date, there are many companies who have taken the reactive approach to publish environmental report as reaction to issues on environmental problems involving their company (Deegan & Rankin, 1996; Deegan et al., 2002; Brown & Deegan, 1998) or the industry in general (Patten, 1992). It is also observed that proactive approach is not widely discussed in available literature where disclosures are used to prevent issues concerning legitimacy.

It is a well-known fact that legitimacy theory is widely used in environmental disclosure studies and researches. By adhering to legitimacy theory, a lot of companies can use either proactive or reactive approach to be able to achieve legitimacy in their operations. Legitimacy theory explains that businesses should inform to the public about their business' involvement with the community, human and physical resources, contributions in terms of environment, product and service in order to legitimize their operations in the eyes of the community around them. This will benefit the business, community as well as stakeholders Patten (1992) asserted that most companies tend to increase their environmental disclosures when crisis occurred so that they can regain their company's legitimacy. This is a proof to the fact that companies use disclosures to build up good image and perception from the public during crisis (Deegan et al., 2000) so as to guard their companies' reputation and corporate identity (Deegan et al., 2000; Hooghiemstra,

2000, Menassa, 2010, Bakar & Ameer, 2011, Muttakin & Khan, 2014). This step is significant to ensure the company's success in the future.

The area of legitimacy has attracted researchers all over the world. Among the mostly discussed area are how crisis can affect company's legitimacy (Doppegieter & De Villiers, 1996; De Villiers & Lubbe, 2001), trends over the time (Antonites & De Villiers, 2003), as well as disclosure patterns from the companies based on crisis that affect the legitimacy of their business (Sutton & Callahan, 1987; Patten, 1992; Elsbach, 1994; Deegan & Rankin, 1996; Darrell & Schwartz, 1997; Deegan et al., 2000). Researches done by Patten (1992) as well as Deegan et al. (2000) which focused on company's legitimacy based on ExxonMobil's Alaskan oil spillage that happened in year 1989 caused by Exxon Valdez are among the examples of investigative studies on this matter. Patten (1992)'s study proved that self-laudatory environmental disclosures had the increasing trend by oil and gas companies following the incident of oil spillage. The increasing trend in environmental disclosure by the related oil and gas companies was obviously the result of public pressure as asserted by Darrell and Schwartz (1997). To save their company's reputation, oil companies had to respond expeditiously to any legitimacy threat (Darrell & Schwartz, 1997). As a result, many researches have pointed out that oil and gas companies took this matter as improvement in their company's work procedures. For example, Deegan et al. (2000) ascertained that information on preventive methods as well as emergency response procedures in cases of oil spillage have started to be reported in the company's annual reports two years after oil spillage disaster of Exxon Valdez. The same study also examined the response of the oil companies in regard to BHP's Iron Baron oil spillage. It was discovered that oil and gas companies also reacted to Iron Baron incident by doing social disclosures on the spillage issue two years after the spill with the aim to regain company's legitimacy (Deegan et al., 2000).

Apart from that, it is revealed from previous literature that whenever companies encounter negative incidents, as a method to control the damage and retain legitimacy, the companies made full use of their social and environmental reporting (Goosen-Botes & Samkin, 2013; Cho, 2009; Deegan & Rankin, 1996; Patten, 1992; Deegan et al., 2000; Summerhays & De Villiers, 2012). Impressions management is also a critical factor in managing legitimacy strategies, whereby companies often represent positive corporate images during situations that could damage their reputation (Michelon, 2012).

Arora and Lodhia (2016) demonstrated that during Deepwater Horizon crisis, BP chose to accentuate positive information as a method to draw public's attention from negative issues that could damage their company's reputation from the incidents. The finding of that study corresponds with other studies in that area (Goosen-Botes & Samkin, 2013; Cho, 2009; Deegan & Rankin, 1996; Patten, 1992; Michelon, 2012; Summerhays & De Villiers, 2012), which concluded that many companies opt to use their social and environmental disclosure in attempts to control legitimacy during critical situations.

### **Background On Deepwater Horizon Incident**

The infamous Deepwater Horizon oil spillage disaster occurred on April 20th, 2010. The incident started when drilling work was being done at Macondo Prospect which is about 52 miles southeast of Venice, Louisiana. A huge explosion followed by fire occurred on the Deepwater Horizon oil rig and caused it to sink the subsequent two days later, 5000 feet in the water despite various efforts to put out the fire on the oilrig (BP, 2010). During that time and in the next 87 days until the oil well was permanently covered with cement on September 19th, 2010 (Det Norske Veritas, 2011, p.2), a huge total of 4.9 million barrels of oil were reported to spill from the Macondo well into the Gulf of Mexico (Schaaf & Apple, 2010). The disaster caused casualty to 11 out of 126 crewmen who were involved in the unfortunate incident (Associated Press, 2010), brought severe injury to 17 others, and reported as the worst environmental disaster in the US history (Bryant & Hunter 2010). As mentioned by Gore (2010), the oil spillage fostered a serious damage on ecological, environmental as well as economic situation of Gulf of Mexico. Among the damage that occurred were environment pollution to the coastline, the death of fish and sea lives, and the loss of jobs for those who stay and work around the Gulf of Mexico including fishermen, and tourism sectors such as restaurant and hotel employees (Lee 2010). That incident affected 20 million people in the United States. Other than that, the incidents also cause massive destructions to other areas such as the fishing industry. Prior to the unfortunate oil spillage, the industry around the area of Gulf of Mexico used to utilize over 213,000 employees in 2008 but after the oil spill, the fishermen were prohibited from doing any types of fishing in the gulf area until environmental clearance was completely done on November 15th, 2010. This had caused unimaginable misery to the lives of many fishing industry workers where they lost their jobs and seafood sales also decreased as consumers were aware of the food safety in the gulf area (Upton 2011). It was also reported that up to 600,000 to 800,000 coastal birds died because of the Deepwater Horizon oil spillage disaster

(Haney et al., 2014). However, it is also important to note that various efforts were made by BP to confine the oil discharge before the attempts finally succeeded. The method was successful by conducting drilling jobs on two relief wells and sealing the Macondo well with a static-kill procedure (Det Norske Veritas, 2011). The technical teams faced with a lot of complexity and used high cost because of the depth of the well. Based on BP's annual report's Income Statement, the total cost of sealing, cleaning-up as well as remediation costs reached about \$40.9 billion. In addition to that, the rectification cost increased due to litigation and remediation expenditures (BP, 2010). The costs were shared with Transocean, the owner of the oil spill site and Deepwater Horizon rig which BP leased the rig to from March 2008 till September 2013 (Det Norske Veritas, 2011).

### **Hypothesis Development**

Patten (1992) mentioned that during environmental crisis, most companies will increase their environmental disclosures in their effort to regain their legitimacy which corresponds to legitimacy theory. The same study also examined the effect of the Exxon Valdez oil spillage on the annual report which contains environmental disclosure of petroleum firms other than Exxon. It was found that there was a significant increase in environmental disclosure due to Exxon Valdez oil spillage where the researcher argued that because of the threats to the company's legitimacy, the company included more information on social responsibility in its annual report. Other than that, Cho (2009) also found that total environmental disclosure reported in annual report increased in response to Erika and AZF disaster in which that study mentioned that this increase indicates the company's legitimization situation and the company's hope to regain its legitimacy. Based on the arguments stated above, it is predictable that Deepwater Horizon oil spillage will positively affect BP's environmental reporting. Therefore, this leads to the following hypothesis which states that:

H: The environmental reporting has significantly improved due to Deepwater Horizon oil spill

### **Data Collection**

The data collected for the purpose of the study involves the investigation on of BP sustainability and annual reports for eleven years from 2006 to 2016. BP is chosen as a subject for this study due to the following reasons; BP is one of the world's leading international oil and gas companies, it is the third largest energy company and the fourth largest company in the world, it has a large international presence with branches in Europe, America, Asia Pacific region, Africa, and the Middle East. One of the recent incidents of a



big scale oil spillage was Deepwater Horizon incident which occurred in the Gulf of Mexico in April 2010. The incident lasted for three months and resulted in more than 10,000 local employee to become temporarily unemployed, followed by \$20 million compensation package issued by BP in accordance to demands from US president, Obama (King, 2010).

A checklist of environmental disclosure item was designed to verify the items that could be disclosed in the BP's annual and sustainability reports. The checklist is constructed based on Global Reporting Initiatives (GRI) indicator. The GRI index is used in this study for the following reasons, firstly GRI provides an internationally recognized framework for CSR reporting (Frost et al., 2005), which is relevant in a research that attempts to investigate CSR reporting at international level. Secondly, utilizing an internationally recognized framework to measure CSR disclosure allows replication of the study. Thirdly, GRI is known to be comprehensive as it covers all reporting aspects such as social, environmental and economic performance. Fourthly, GRI is also reflected as the latest and innovative measures for CSR reporting. Finally, GRI has been extensively used in prior studies that examine CSR issues such as environmental reporting (Hasseldine et al., 2005; Van Staden & Hooks, 2007; Alazzani & Wan Hussin, 2013). The voluntary environmental themes stated by GRI are distributed into nine aspects which are; materials, energy water biodiversity emissions, effluents, and waste products and services compliance transport.

Content analysis method is used to measure the level of environmental disclosures in annual reports. This is based on examples from previous literatures, where content analysis was popularly used in social disclosure researches (Ingram, 1978; Ingram & Frazier, 1980; Guthrie & Parker, 1989). The method is highly reliable to be used in disclosures studies especially on the subject of social responsibility (Guthrie & Parker, 1990; Zeghal & Ahmed, 1990; Hackston & Milne, 1996; Rahman et al., 2010; Kuasirikun & Sherer, 2004). This statement is supported by Weber (1985), as quoted in Hackston and Milne (1996), who elucidated content analysis as a method to code the text in categories that depend on certain specified criteria. This study adopts the two-point scales codify (0-1, 1 for environmental disclosure and 0 for no disclosure) and measure the disclosures of environmental reports. The dichotomous approach has been employed by a number of disclosure literature (Cooke, 1989, 1991; Wallace & Naser, 1995; Haniffa & Cooke, 2002; Leventis & Weetman, 2004; Barako et al., 2006; Ghazali & Weetman, 2006). Each annual reports and sustainability reports of BP were investigated thoroughly to clarify environmental

disclosures from year 2006 to year 2016. After that, every environmental information that relate to environmental categories disclosed was included in the scoring sheet based on the scale.

### Data Analysis

The current study uses descriptive statistics to analysis all observations containing mean, median, minimum, and maximum to determine the level of environmental reporting conducted by BP as well as its categories. Paired t-test is also performed to determine whether environmental reporting has increased significantly based on the incident of Deepwater Horizon oil spillage.

### Results

#### Trend of Environmental Reporting

Table 1 demonstrates descriptive statistics of BP environmental reporting in eleven years, from year 2006 to year 2016 in sustainability reports and annual reports. The result shows that overall percentage for environmental reporting in annual reports and sustainability reports of BP Company is 54.09 % over the span of eleven years. It is found that there is a significant improvement in BP environmental reporting from year 2006 to year 2016. The analysis also shows that from year 2006, the percentage of environmental reporting had shown increasing trend till 2016. The percentage of environmental reporting increased from 40 % in year 2006 to 63.34 % in year 2016. There is 23.34 % improvement in BP environmental reporting within the last 11 years. The highest amount of environmental reporting was identified in 2013, with percentage of 65 %. This result is assumed to be due to the reason that in that particular year, BP was plead guilty for the charge on Deepwater Horizon incident and sentenced by the court to pay \$4 Billion for the environmental crimes (EPA, 2013). However, it is also observed that in 2014, the environmental reporting had decreased by 1.66 % from previous year. This is attributed to the loss due to Deepwater Horizon court sentence. Overall, the lowest environmental reporting was reported to be in 2007 with 36.67 %.

The results also show that after Deepwater Horizon incident from 2010 to 2011, the level of environmental reporting significantly increased by 8.34 %. This phenomenon is likely to be influenced by Gulf Mexico Deepwater Horizon incident. Starting from 2011 to 2016, the volume of environmental reporting increased significantly from the first five years which is consistent with legitimacy theory which mentions that a company must conduct business operations and activities based on the society's trust. That being said, the organization is

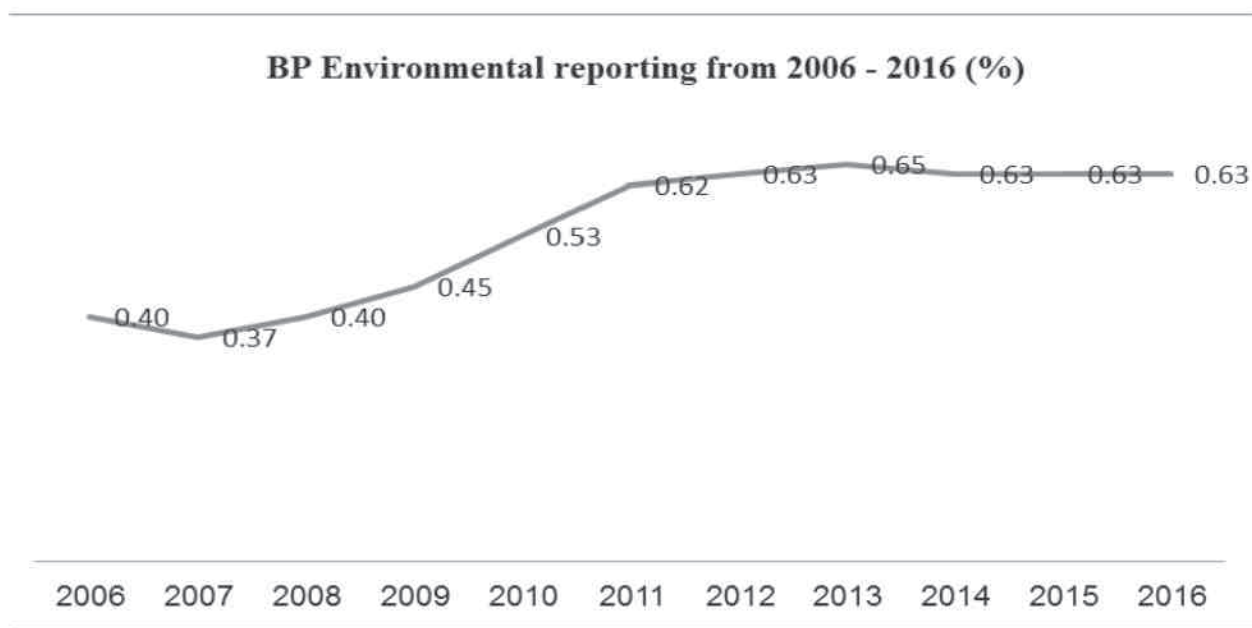
obliged to implement actions expected by the public and at the same time disclose necessary information to represent a good corporate image (Guthrie & Parker, 1989; Maali et al., 2003). Other than that, the companies should also be able to administer public perceptions during any crisis (Deegan et al., 2000). The adoption of this theory

demonstrates that disclosure of accurate environmental information can help companies to retain their corporate reputation from society as well as the stakeholders. Also, the increase in CSR activities and information disclosure by the companies may decrease legitimacy threat (Rahman et al., 2010).

**Table 1:** Descriptive statistics on environmental reporting

Year	Percentage
2006	40 %
2007	36.67 %
2008	40 %
2009	45 %
2010	53.33 %
2011	61.67 %
2012	63.34 %
2013	65 %
2014	63.34 %
2015	63.34 %
2016	63.34 %
<b>Total</b>	<b>54.09 %</b>

**Figure 1:** Line chart portraying the trends of BP's environmental reporting (2006 to 2016)



#### Environmental Reporting Categories:

As mentioned previously, environmental reporting index are distributed into nine main categories based on GRI classification. The descriptive analysis in this section explains every category of environmental reporting. Table 2 demonstrates descriptive statistics for the categories of environmental reporting over the study period. The highest level of compliance in environmental reporting categoryy

is 90.91 %. This is consistent with Alazzani and Wan-Hussin (2013)'s study. The next highest level in environmental reporting category by BP is its transportation with 77.27 %. Contradict to that, the lowest disclosed environmental category is products and services. That being said, the analysis results show that only 4.5% of environmental reporting was disclosed from the year of 2006 to year 2016. This result corresponds with report by Clarkson et al. (2008) who discovered that firms from the

five most polluting industries in the US in their study only disclosed 4% of environmental reporting that relate to products and services. This suggests that the oil and gas industry as well as other industries that are prone to contribute to pollution emphasized more on compliance

matters to promote the positive image. Legitimacy theory also indicates that businesses can divert the public's attention from crisis by shifting external parties' focus or inform the community on current organizational activities in hope to rectify perceived deficiencies (Lindblom, 1993).

**Table 2:** Environmental Reporting per Category

Year	MAT	ENG	WAT	BIO	EMI	PROD	COMPL	TRANS
2006	50 %	50 %	33.33%	20 %	45 %	0 %	100 %	50 %
2007	25 %	50 %	33.33%	0 %	45 %	0 %	100 %	100 %
2008	50 %	40 %	33.33%	30 %	40 %	25 %	50 %	50 %
2009	50 %	60 %	50 %	30 %	45 %	0 %	50 %	50 %
2010	50 %	20 %	50%	60 %	45 %	0 %	100 %	50 %
2011	50 %	100 %	33.33%	80 %	45 %	25 %	100 %	50 %
2012	50 %	100 %	33.33%	80 %	50 %	0 %	100 %	100 %
2013	50 %	100 %	50 %	60 %	60 %	0 %	100 %	100 %
2014	50 %	100 %	50 %	50 %	60 %	0 %	100 %	100 %
2015	50 %	100 %	83.33%	40 %	70 %	0 %	100 %	100 %
2016	50 %	100 %	83.33%	40 %	70 %	0 %	100 %	100 %
<b>Total</b>	<b>47.72%</b>	<b>74.55%</b>	<b>48.48%</b>	<b>44.55%</b>	<b>52.27%</b>	<b>4.55%</b>	<b>90.91%</b>	<b>77.27%</b>

### Paired t-test

To examine if environmental reporting has significantly increased because of the incident of Deepwater Horizon oil spillage, the study uses paired t- test to verify the changes in environmental reporting before year 2010 and after year 2010. The results of paired t-tests in Table 3 demonstrates that the mean environmental reporting before and after Deepwater Horizon oil spill ranged from 43 % to 65 % with mean differences ranging from -22 % which shows significant increases in the environmental reporting (1 % level). Therefore, the hypothesis of this study is accepted.

The result gained is consistent with the research of Summerhays and De Villiers (2012) which showed that the increment in the positive environmental news disclosure was verified in all major oil and gas companies' environmental disclosures after the incident of oil spillage. The study also argued that when a company's legitimacy is jeopardized by such crisis, most companies resort to using disclosures in order to manage publics' perceptions so that the company can regain that legitimacy. Cho (2009) in his study also found that total environmental disclosure increased based on Erika and AZF spillage incidents in 1999 and 2001 respectively.

**Table 3:** Result of Paired T-Test

N=5		Mean %	Mean Difference	t	Sig. (2-tailed)
Pair	ENVR before 2010	.43			
	ENVR after 2010	.65	-.22	-10.565	.000***

\*\*\* Significant at 1%.

### Conclusion and Discussion

This study investigates BP's improvement in environmental reporting specifically based on the case of Deepwater Horizon oil spillage incident as well as the trend of reporting from year 2006 to 2016. To understand this reaction, this research adopts legitimacy theory. Commonly, disclosure of environmental performance reports is voluntary among oil and gas industry. In this study, it is shown that BP has made several efforts and noble initiatives by disclosing such information to the public. For the past 11 years, this study finding has proven that BP has made public their environmental reporting which shows their compliance on the environmental issues.

The findings of this study also reveal that BP has improved its environmental reporting since Deepwater Horizon oil spillage unfortunate incident. This supports our hypothesis which mentions that the environmental reporting has been significantly enhanced due to Deepwater Horizon oil spillage disaster. This also confirms prior findings of the study conducted by Summerhays and De Villiers (2012).

Based on the results, it clearly verifies that legitimacy theory supports this study's findings. In the context of this study, the legitimacy theory suggests that BP made use of the of environmental reporting by disclosing incidents such as oil spills to justify and legitimize what happened within their operation to the community. Thus, this study

establishes the fact that BP's response to Deepwater Horizon oil spillage affects their company's method of conducting environmental disclosure to the public. The study expects that BP's high level of environmental reporting depends highly on the incidents related to environmental issues.

Based on extensive literature review, it is found that there is lack of longitudinal study in environmental reporting cases in oil and gas industry, thus this study presents the initial scenario of environmental reporting in critical environment such as oil and gas industry. By highlighting the importance of environmental reporting as shown by case study of this research, it can provide recommendations to regulators to improve, monitor and enforce environmental reporting's adequacy. The findings in this study also provide feedback on the effectiveness of actions taken by BP during the Deepwater Horizon oil spillage disaster. The paired t-tests findings in this research show that even though the environmental reporting has helped to increase the level of environmental reporting, however, the environmental reporting level is still considered very low in general. Public policy makers in countries especially those which depends highly on oil and gas industry can utilize this result while considering the regulations of additional environmental reporting.

In this study, there are also some limitations. Firstly, it is imperative to note that the findings cannot be generalized to other oil and gas companies; mainly because this study only investigates on BP and only focuses on a single industry. It is hoped that future study can extend the investigation to other oil and gas companies to gain extra evidence on environmental reporting levels. Larger sample size usually helps to provide more information on each company's response to environmental incidents accurately. Secondly, to evaluate environmental reporting, current research uses dictomos rather than other style of measurements. Thirdly, this study uses content analysis method to quantify disclosure that was extracted from company documents such as sustainable reports and annual reports. As for future study, it is also recommended to extend the analysis to other information disclosure media such as newspapers, internet, advertisements, brochures and press releases. Apart from that, future environmental reporting research is also suggested to focus the enquiry beyond the level of disclosure.

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