
EVALUATION OF SOCIAL ASPECTS OF SUSTAINABLE DEVELOPED STRATEGY IN OIL AND GAS COMPANIES IN MIDDLE EAST

AliAsghar Sadeghi Mojarad¹
¹Bucharest Academy of Economic Studies,

Abstract

Sustainability has been the focus of many researches in the past decades, and it will continue to be at the epicenter of the upcoming technological evolutions with growing consensus about climate change and environmental protection. There is no consistency among countries with respect to their commitments to the principles of sustainability. For example, Middle East region has vast oil and gas exploitation activities that are known as pollutant industries. Although the oil and gas industry has adopted some robust standards for environmental issues, the level of willingness to adopt and implement those standards vary among companies. In the absence of governmental regulations, companies are left to their leadership's discretion to either consider sustainability in their activities or not. Needless to say, there has been great progress in introducing and enacting relevant regulations in the past two decades, but the situation is still far from ideal. Sustainable development is examined through three pillars of economic growth, ecological balance, and social progress. Social aspects are often overlooked as the consequences are not necessarily observed right away, but the society is as important as the environment. That's why social aspect has been chosen as the focus of this research. This paper aims to highlight the issues in implementing the concept of sustainability in the Middle East region. The analysis is conducted on responses of a questionnaire with some specific questions relevant to this topic, which were filled in by employees and managers of some oil companies in this region.

Keywords: sustainability, social aspect, sustainable development, social commitment, oil and gas, Middle East

1. Introduction

Over the past decade, concerns about the long-term consequences of economic development have increased significantly. As a result, many activities have been carried out to establish a framework of analysis to design policies that would promote sustainable development. In general, sustainable development can be translated into mitigating environmental degradation and improving quality, social and living conditions, and promoting economic condition to be applied. In the other words, sustainability can be broadly defined as meeting the needs of the present generation without compromising the ability of future generations to meet their own needs (WCED, 1987). There is a great difference between the definition of sustainability and the understanding of sustainability at the level of organizations and companies, and the general perception of sustainability and these perceptual differences do not indicate a consensus on sustainability. On the other hand, the introducing concepts such as TBL or 3p, etc., has created some trends in the definition of sustainability in the world. On the other hand, the practical implementation of sustainable development faces challenges including the lack of agreed

definition of sustainability, implementation methods, and indicators that can be used to measure the success of policies. It is imperative to note that sustainability can be viewed from different angles (Figure 1), of which social aspect is the focus of this paper. Becker (2011) believes that the multidimensional nature of sustainability is something that often leads to confusion between different entities and spheres involved. For example, an engineer, economist, and artist may discuss sustainability as a project goal, but in fact, they have three different objectives in mind.

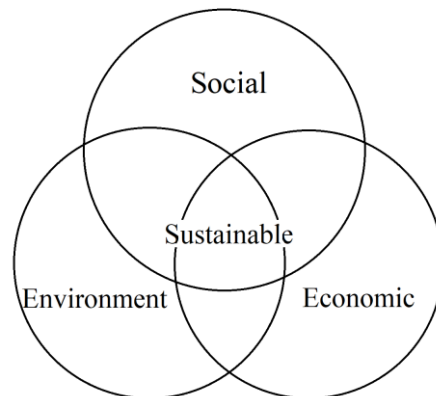


Figure 1: Models of sustainability (Purvis, Mao, & Robinson, 2019)

During the past three decades, understanding and adoption of sustainable development concept in the business community increased considerably. In most cases, leading companies began to implement the sustainability principles in the formulation of strategies. This vision is reflected in the Business Council of Sustainable Development consisted of 165 international companies in a shared commitment to sustainable development through the three pillars of economic growth, ecological balance, and social progress. Some of those companies didn't have brilliant records in environmental protection, but they have been involved in identifying sustainable approaches to trade as well as economic activity. (Azapagic, Perdan, & Clift, 2004)

One of the main aspects of sustainability that has an impact on the sustainable development strategy in organizations or companies is the social aspect. The socially sustainable development is oriented to human development, public and cultural systems, and societal conflict (Rogers et al., 2012). In this regard Dempsey, Bramley, Power, and Brown (2011) outlined the significances of social interactions in human sustainability in the context of development. Moreover, Frant and Minica (2008) have conducted a comprehensive classification of the social aspect of sustainable development, and synthesized the main objectives including education, public support for the environment, concentration on human health, fight against poverty, and support of population growth. However, Oxford Institute for Sustainable Development (OISD) has a different view point and has stated more diverse definition of socially sustainable development as a combination of traditional social policy areas with emerging issues such as social capital, the environment, wellbeing and quality of life.

Environment has been considered as a serious issue in the oil and gas industry, but all of these issues somehow impact each other, hence must be analyzed in a comprehensive context. Oil and

gas will be the main sources of energy for decades to come. Therefore, successful transition to a sustainable future community will be dependent on assessment and comprehensive analysis of sustainable development and its effects on local communities, government agencies and commercial enterprises. Corporate Social Responsibilities is one of the social aspects that has been widely studied in the context of sustainability in oil and gas industry (Banerjee, 2017; Branco & Rodrigues, 2006; CHONG & Tan, 2010). The other aspect is Social License to Operate which is also considered for assessing an organization’s success in achieving a sustainable performance (Tomlinson, 2017; Demuijnck & Fasterling, 2016; Brueckner & Eabrasu, 2018).

Petroleum industry not only faces internal challenges, but also external issues such as oil price fluctuation and regulations. These challenges can be classified in various categories as listed in Table 1, which indicate complexity of the industry and problems to be resolved. Oil and gas companies are under an increasing pressure by public, governments and not-for-profit organizations, hence they exercise the social aspects of sustainability in the context of economic or environmental considerations (Cuadrado-Ballesteros, Frías-Aceituno, & Martínez-Ferrero, 2014). It seems that the publication of some voluntary reports of firms’ actions in sustainability are the result of public demand. Although authors like Gray and Bebbington (2007) believe that organization’s reporting in their sustainability is not accurate and true, this is seen a step forward in recognizing the need for changing policies with respect to sustainability.

Table 1. Challenges of social aspects of sustainability in oil and gas industry, adopted from Sadeghi Mojarad, Atashbari, and Tantau (2018)

Challenge	Noted by
Oil Price fluctuation	(Regnier, 2007);(Al-Maamary, Kazem, & Chaichan, 2017);(Longwell, 2002)
Financial Return (Profitability)	(Ramos, Taamouti, Veiga, & Wang, 2017);(Vätavu, Lobonț, Para, & Pelin, 2018);(Svatoňová, Herák, & Kabutey, 2015)
Complexity of Operation	(Gupta & Grossmann, 2017);(Kaiser, 2007);(LIU, LIN, HU, & YE, 2008);(Nzeda, Schamp, & Schmitt, 2014)
Global Oil Demand (energy consumption)	(BP, 2017);(Edmonds & Reiley, 1985);(Rowland & Mjelde, 2016)
HSE compliance (environmental impact)	(Neill, 2017);(Amaral & Alves Lima, 2010);(Dublin-Green, Nwankwo, & Irrechukwu, 1998)
Social License to Operate (SLO)	(Tomlinson, 2017);(Demuijnck & Fasterling, 2016);(Brueckner & Eabrasu, 2018)
Corporate Social Responsibilities (external benefits)	(Banerjee, 2017);(Branco & Rodrigues, 2006);(CHONG & Tan, 2010)
Fluctuation of fiscal regimes	(Babajide, Ogunlade, Aremu, Oladimeji, & Akinyele, 2014);(Ramírez-Cendrero & Paz, 2017);(Mommer, 1999)
Severe Competition	(Hall & Vredenburg, 2003);(Shuen, Feiler, & Teece, 2014);(Mohn & Misund, 2009)
Unstable partnership of NOC-IOC	(Whitson, 2009);(Al-Fattah, 2013b);(Krishna et al., 2012);(Al-Fattah, 2013a)

This research undertakes a special approach to examine the readiness and willingness of oil companies in the Middle East region to become sustainable businesses with respect to social aspects. Results of a detailed questionnaire is analyzed, and relevant indicators are obtained as direct indexes or proxies to the objectives of the study.

2. Methodology

This research utilizes quantitative research to find the association of a dependent variable such as organization type, action plan, financial performance, social and ecological issues in the practice of oil and gas companies with other independent variables like the concept of sustainability. The basis of this study is results of a questionnaire conducted by the same research team and partially published in Tançou, Khorshidi, and Sadeghi (2017). 128 individuals working in oil companies in Middle East are have responded to the questionnaire, and results are compiled for further evaluation. To conduct the analysis, it is necessary to examine the interdependency of assessed parameters. One of the best available tools is the chi-square test, in which the level of significance of the test (sig) is determined, where any value less than 0.05 indicates a meaningful relationship between the answers. The statistical data were collected within the IBM SPSS software, and then further analysis is carried out using Microsoft Excel spreadsheets and graphs. In addition to presenting statistics of individual parameters, cross tabulation of responses to two questions are very informative, and therefore are utilized herein. Quality of results are assessed using Cronbach's alpha test as follows:

$$\alpha = \frac{k}{k-1} \left[1 - \frac{\sum S_i^2}{S_x^2} \right] \quad (1)$$

Where,

α = Cronbach's alpha coefficient

k = number of questions in the survey

S_i^w = variance of i^{th} question

S_x^2 = total variance of the survey

This coefficient is calculated for 67 variables which yielded 0.946, which means that the research methodology is reliable. Moreover, Kolmogorov–Smirnov test was conducted to compare the cumulative distributions of two data sets. After verifying quality of data, statistical results and cross tabulations are utilized to obtain insights for the objectives of the research.

In terms of data statistics, the aim was to have a diverse population of samples, which consisted of a great portion of senior employees. It is crucial to have viewpoints of experts in different departments, so the conclusion can be inclusive of all opinions in the organization. According to Figure 2, 46% of respondents work in technical departments, 15% in management and 11% in HSE. Moreover, senior employees know the industry and their organizations better, hence experience was a decision factor in selecting individuals for this survey. As Figure 2

shows, 45% of respondents have more than 15 years of experience and 32% have 10-15 years of experience.

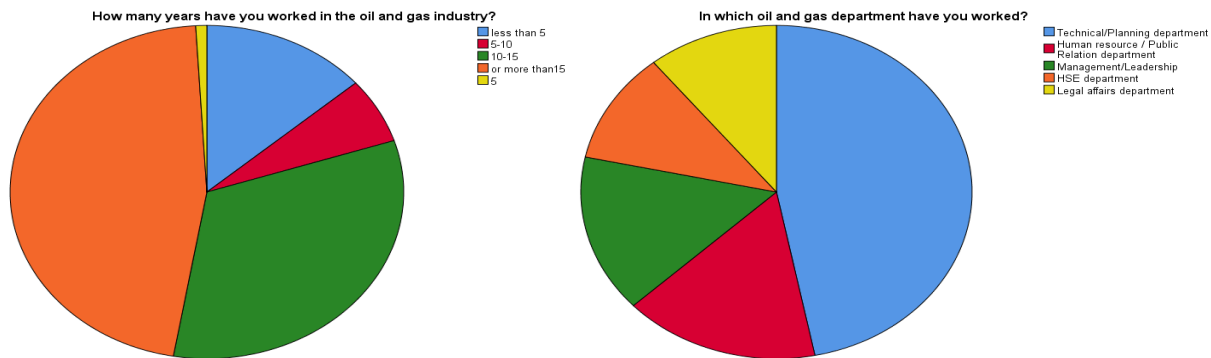


Figure 2: Experience of respondents to the questionnaire (left) and respective department of respondents (right)

3. Results and Discussions

First of all, it is important to analysis the importance of social aspects of sustainability against the economic and environmental aspects as well as tendency in investment in social issues. Figure 3 shows that social aspect of sustainability is considered moderately important by the majority of respondents. However, it's obvious that the economic aspect is of more importance than social, and this is why social commitment of oil and gas companies are not ideal in this region.

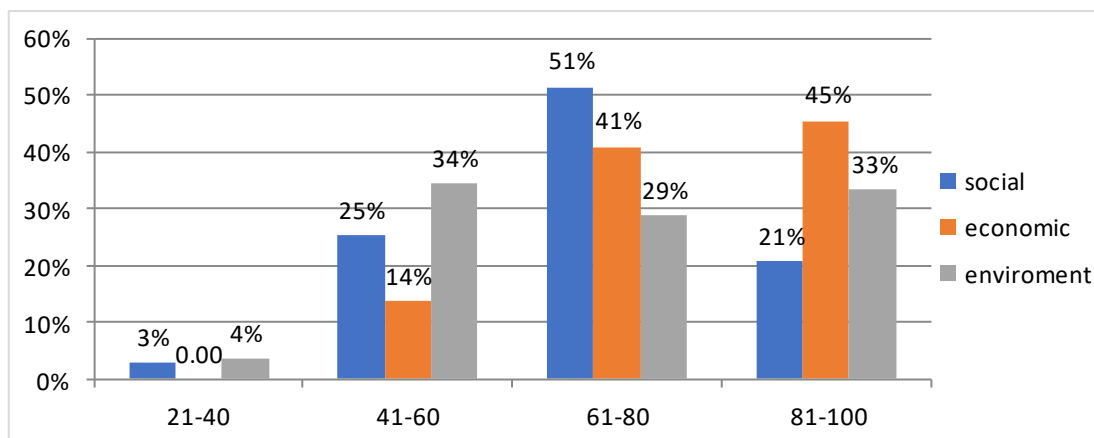


Figure 3: Level of importance for each aspect of sustainability

Social considerations often mean social responsibility, which requires investment in social services or supporting certain activities. It is essential to evaluate this factor along with the results of the previous figure as a cross tabulation between investment in social issues and results of question about the level of importance for each aspect of sustainability (Figure 4).

Interestingly, those who said their company hasn't had any investment in social issues considered social aspect as an important factor in sustainability. Moreover, 63% of those who stated the importance of social aspect 61-80, weren't sure if their company has any investment in social issues. This may indicate a gap between social concerns and commitment to actually doing something (i.e., investment), and needs to be considered further.

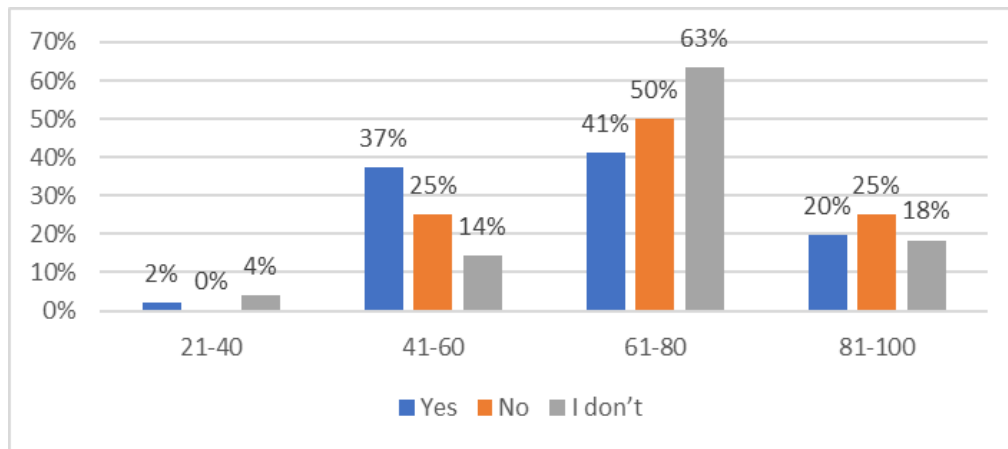


Figure 4: Cross tabulation between responses to a question about having any investment in social issues and the level of importance for each aspect of sustainability (Social)

One of the most important issues in the oil and gas companies from sustainable development perspective is the size of a company. Generally, big corporations that are active in upstream or downstream sector of oil industry operate in a broader domain and therefore, deal with different challenges than small size companies. According to Figure 5, there is a clear trend with respect to the perception of social aspect with respect to company size. Smaller companies consider less importance for social aspect than larger organizations. This finding signifies the need for more education and perhaps infrastructure development for small to medium size businesses.

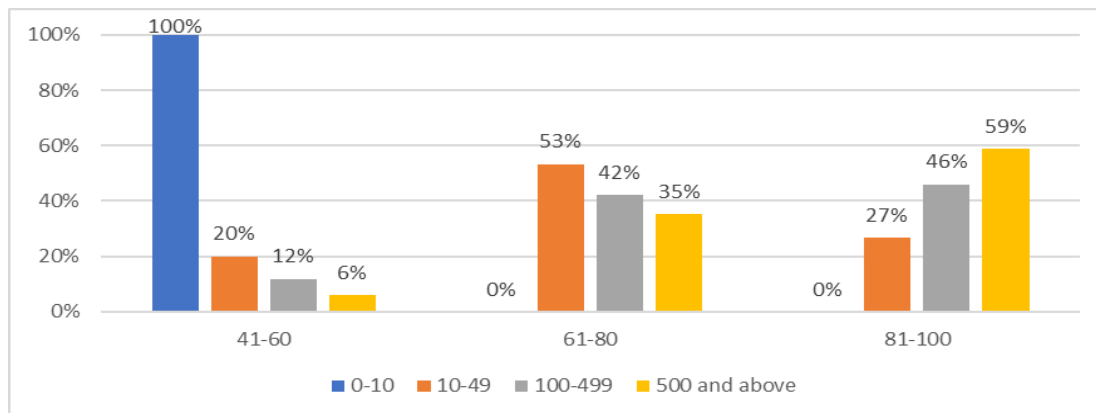


Figure 5: Cross tabulation of responses to a question about the level of importance for each aspect of sustainability (Social) with the size of company. Color code is the company size.

Creation of a specific department for following up sustainability in oil and gas companies has almost the positive response by employees. It seems that employees are often waiting to see the concept of sustainability accepted and adopted by shareholders and top management first, then exercise those principles by themselves. Management’s action toward this issue can be in the form of dedicating resources to implement sustainability strategies and monitor outlined objectives. Indeed, not all companies have dedicated department in charge of this as shown in Figure 6. Within each category, the proportion of responses is similar. However, majority of those who reported existence of a responsible department for sustainability in their respective companies rated the social aspect as an important factor. This means that companies with stronger belief in social commitment take sustainability more serious than those who don’t.

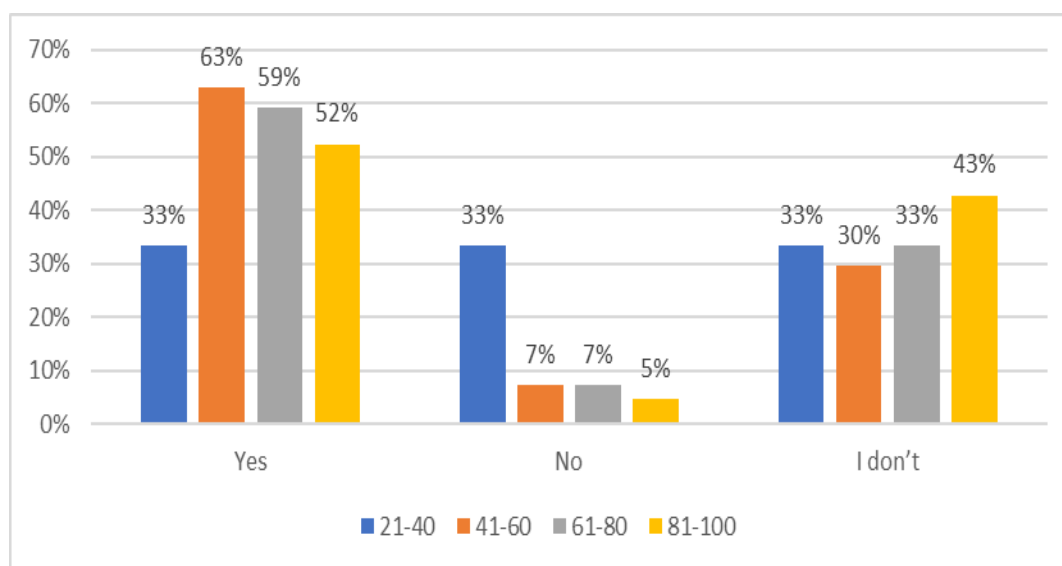


Figure 6: Cross tabulation of a question about having any specific department regarding any aspects of sustainability in respective organization/company with the level of importance for each aspect of sustainability (Social)

In addition to how organizations handle social issues internally, their external activities can also reveal facts about their strategy and business environment they operate in. In the questionnaire, respondents were asked about having some procedures for collecting information on competitors, customers, economic and social trends, and technological trends in their companies. Responses to this question were plotted versus the size of companies (Figure 7) which suggests that there is a clear trend where larger organizations seem to have more procedures relevant to sustainability. This makes sense because they have more financial and logistical facilities to do so.

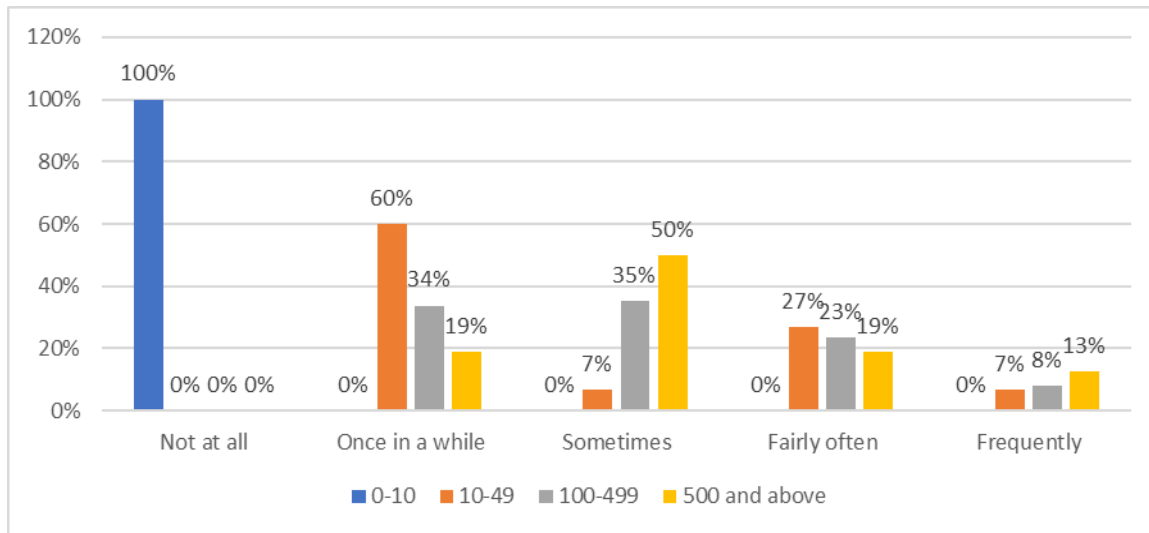


Figure 7: Cross tabulation of responses to a question on having procedures for collecting information on competitors, customers, economic and social trends, and technological trends with the company size.

Having means for meeting with diverse stakeholders such as customers, suppliers and outside social communities, and learning from them is the key for success. However, this consideration varies by the size of company, and as seen in Figure 8, larger organizations tend to have more forums and facilities for interacting with external communities.

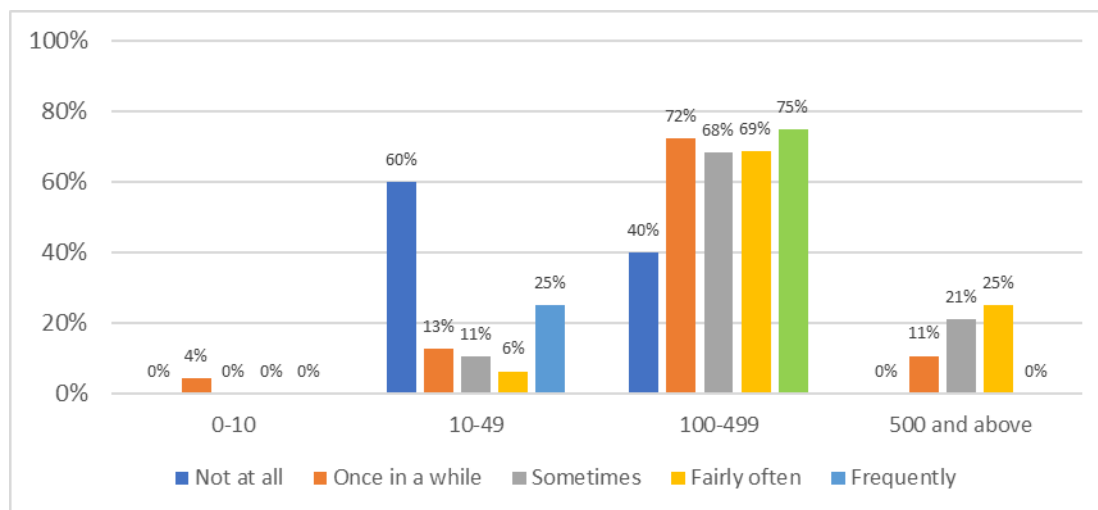


Figure 8: Cross tabulation of responses to a question about having multiple forums for meeting with, and learning from diverse stakeholders such as customers, suppliers, and outside social communities and the size of company.

4. Conclusion

Social aspects of sustainability are major concern with regards to environmental protection and cost benefit management. To examine the success of an organization in achieving sustainability from social point of view, the firm's resources and internal and external relations were assessed via questionnaires filled in by the employees and managers. Social aspect is not as important as economic aspect in the opinion of majority of respondents. However, businesses have different understanding of sustainability as well as its aspects such as social commitment. It was shown in this research that the perception of social responsibility varies among organizations proportional to their size. Albeit the business objectives and business environment are also important, but among those who are in the oil and gas industry in Middle East, social aspect of sustainability seems more important to individuals in larger organizations than those in smaller businesses. Moreover, larger organizations, those of which most have dedicated department responsible for sustainability, seem to have more procedures for learning from diverse stakeholders and outside social communities. These findings suggest the need for more educational and perhaps financial support to small size organizations to better utilize their resources and enforce their social commitments. Such kind of support are better facilitated by governments, and the findings of this study can shed lights on this matter.

References

- Al-Fattah, S. (2013a). National oil companies: business models, challenges, and emerging trends.
- Al-Fattah, S. (2013b). The role of national and international oil companies in the petroleum industry.
- Al-Maamary, H. M., Kazem, H. A., & Chaichan, M. T. (2017). The impact of oil price fluctuations on common renewable energies in GCC countries. *Renewable and Sustainable Energy Reviews*, 75, 989-1007.
- Amaral, S. P., & Alves Lima, G. B. (2010). *Use of Integrated HSE Audits and Legal Compliance Environmental Audits in the Brazilian Oil Industry*. Paper presented at the SPE International Conference on Health, Safety and Environment in Oil and Gas Exploration and Production.
- Azapagic, A., Perdan, S., & Clift, R. (2004). *Sustainable development in practice. Case Studies for Engineers and Scientists*, Wiley, West Sussex, UK.
- Babajide, N., Ogunlade, C., Aremu, D., Oladimeji, S., & Akinyele, O. (2014). Comparative analysis of upstream petroleum fiscal systems of three (3) petroleum exporting countries: Indonesia, Nigeria and Malaysia. *Int. J. Sci. Basic Appl. Res*, 15(2), 99-115.
- Banerjee, S. B. (2017). Transnational power and translocal governance: The politics of corporate responsibility. *Human Relations*, 0018726717726586.
- Becker, C. (2011). *Sustainability ethics and sustainability research*: Springer Science & Business Media.
- BP. (2017). *Energy outlook 2017*. Retrieved from <http://www.bp.com/content/dam/bp/pdf/energy-economics/energy-outlook-2017/bp-energy-outlook-2017.pdf>

- Branco, M. C., & Rodrigues, L. L. (2006). Corporate social responsibility and resource-based perspectives. *Journal of Business Ethics*, 69(2), 111-132.
- Brueckner, M., & Eabrasu, M. (2018). Pinning down the social license to operate (SLO): The problem of normative complexity. *Resources Policy*, 59, 217-226.
- CHONG, W. N., & Tan, G. (2010). Obtaining intangible and tangible benefits from corporate social responsibility. *International Review of Business Research Papers*, 6(4), 360.
- Cuadrado-Ballesteros, B., Frías-Aceituno, J., & Martínez-Ferrero, J. (2014). *The role of media pressure on the disclosure of sustainability information by local governments*. Online Information Review.
- Dempsey, N., Bramley, G., Power, S., & Brown, C. (2011). *The social dimension of sustainable development: Defining urban social sustainability*. *Sustainable Development*, 19(5), 289-300.
- Demuijnck, G., & Fasterling, B. (2016). The social license to operate. *Journal of Business Ethics*, 136(4), 675-685.
- Dublin-Green, W., Nwankwo, J., & Irrechukwu, D. (1998). *Effective regulation and management of HSE issues in the petroleum industry in Nigeria*. Paper presented at the SPE International Conference on Health, Safety, and Environment in Oil and Gas Exploration and Production.
- Edmonds, J., & Reiley, J. (1985). Global energy-assessing the future.
- Gupta, V., & Grossmann, I. E. (2017). Offshore oilfield development planning under uncertainty and fiscal considerations. *Optimization and Engineering*, 18(1), 3-33.
- Frant, F., & Minica, M. (2008). *Theoretical Aspects of Sustainable Development Strategy of Romania*. *Annals of the University of Petrosani Economics*, 8(1).
- Gray, R., & Bebbington, J. (2007). *Corporate sustainability, accountability and the pursuit of the impossible dream*. *Handbook of sustainable development*, 376-394.
- Hall, J., & Vredenburg, H. (2003). The challenge of innovating for sustainable development. *MIT Sloan management review*, 45(1), 61.
- Kaiser, M. J. (2007). A survey of drilling cost and complexity estimation models. *International Journal of Petroleum Science and Technology*, 1(1), 1-22.
- Krishna, P. P., Janus, B., Doherty, B. A., Peterson, C. A., Sherman, R. J., Curlee, C. K., & Murphy, H. (2012). *Sustainability reporting on the rise within the Petroleum Industry-A view of the industry and experiences from an NOC, IOC and Service Company*. Paper presented at the International Conference on Health, Safety and Environment in Oil and Gas Exploration and Production.
- LIU, Y.-g., LIN, K., HU, A.-z., & YE, D.-p. (2008). Study on the Complexity of Deep Well Drilling String [J]. *Oil Field Equipment*, 1.
- Longwell, H. J. (2002). The future of the oil and gas industry: past approaches, new challenges. *World Energy*, 5(3), 100-104.
- Mohn, K., & Misund, B. (2009). Investment and uncertainty in the international oil and gas industry. *Energy Economics*, 31(2), 240-248.
- Mommer, B. (1999). *Oil prices and fiscal regimes*: Citeseer.

- Neill, M. (2017). *An Integrated Approach to Operational Risk Management—The Role of Process Safety Management*. Paper presented at the SPE Health, Safety, Security, Environment, & Social Responsibility Conference-North America.
- Nzeda, B. G., Schamp, J. H., & Schmitt, T. (2014). *Development of Well Complexity Index to Improve Risk and Cost Assessments of Oil and Gas Wells*. Paper presented at the IADC/SPE Drilling Conference and Exhibition.
- Purvis, B., Mao, Y., & Robinson, D. (2019). Three pillars of sustainability: in search of conceptual origins. *Sustainability science*, 14(3), 681-695.
- Ramírez-Cendrero, J. M., & Paz, M. J. (2017). Oil fiscal regimes and national oil companies: A comparison between Pemex and Petrobras. *Energy Policy*, 101, 473-483.
- Ramos, S. B., Taamouti, A., Veiga, H., & Wang, C.-W. (2017). Do investors price industry risk? Evidence from the cross-section of the oil industry. *Journal of Energy Markets*.
- Regnier, E. (2007). Oil and energy price volatility. *Energy Economics*, 29(3), 405-427.
- Rogers, D. S., Duraiappah, A. K., Antons, D. C., Munoz, P., Bai, X., Fragkias, M., & Gutscher, H. (2012). *A vision for human well-being: transition to social sustainability*. *Current Opinion in Environmental Sustainability*, 4(1), 61-73.
- Rowland, C. S., & Mjelde, J. W. (2016). Politics and petroleum: Unintended implications of global oil demand reduction policies. *Energy Research & Social Science*, 11, 209-224.
- Sadeghi Mojarad, A. A., Atashbari, V., & Tantau, A. (2018). *Challenges for Sustainable Development Strategies in Oil and Gas Industries*. Paper presented at The 12th International Conference, on Business Excellence, Innovation and Sustainability in a Turbulent Economic Environment, Bucharest, Romania.
- Shuen, A., Feiler, P. F., & Teece, D. J. (2014). Dynamic capabilities in the upstream oil and gas sector: Managing next generation competition. *Energy Strategy Reviews*, 3, 5-13.
- Svatoňová, T., Herák, D., & Kabutey, A. (2015). Financial profitability and sensitivity analysis of palm oil plantation in Indonesia. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, 63(4), 1365-1373.
- Tanțau, A., Khorshidi, M., & Sadeghi, A. (2017). *International Oil Companies Sustainability after Oil Price decline*. Proceedings of the International Conference on Business Excellence, 11. doi:10.1515/picbe-2017-0017
- Tomlinson, K. (2017). *Oil and gas companies and the management of social and environmental impacts and issues: The evolution of the industry's approach* (9292562460). Retrieved from <https://www.econstor.eu/>
- Vätavu, S., Lobonț, O.-R., Para, I., & Pelin, A. (2018). Addressing oil price changes through business profitability in oil and gas industry in the United Kingdom. *PloS one*, 13(6), e0199100.
- WCED. (1987). *Our Common Future*. World Commission on Environment and Development. Oxford: Oxford University Press.
- Whitson, C. H. (2009). International vs. National Oil Companies-What's the Difference? *The Way Ahead*, 5(03), 10-11.