**Development of Accrual Accounting In the Oil Industry**

**Abstract**

The research study evaluated the case of accrual accounting in the context of oil companies. The operations of oil exploring corporation is highly complicated and requires similarly complex treatment in terms of management. The oil companies have the choice to implement cash and accrual basis of accounting. After 1990, the majority of the oil companies shifted to the accrual accounting system. Chevron Oil Corporation was one such company. The research study evaluates the case of Chevron Corporation and the implication of accrual accounting for the company. The research study was based on qualitative methodology and secondary data was used to conduct the research. The research findings suggested that accrual accounting had positively impacted the operation, performance and financial disclosure of the company. However, the benefits were not without its apparent challenges. The conversion period proved to be quite challenging for Chevron Corporation and the company had to invest considerable resources as well as train its staff. Furthermore, the overall technological and financial framework of the company was overhauled and upgraded. At the same time, there was major resistance from the shareholders as understanding revised financial statements was more challenging for the stakeholders. Finally, the share price of the company also significantly reduced. The findings identified that accrual accounting enhances the financial disclosure system of the company. It enhances the confidence of the shareholders and provide a more accurate picture of the financial position of the company.

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**3. METHODOLOGY**

The chapter of methodology provides a detailed account of different functional areas; tasks and methods that have been incorporated to conduct the research on Development of Accrual accounting in the oil industry and arrive at a conclusion. The chapter is distributed in the different sub-sections and sheds light on important areas such as Philosophy of Research, Design of the research, Data collection and Data analysis procedures.

**3.1 Research Philosophy**

Constituting an integral part of the research process, the philosophy of the research tends to explain the nature and development of the knowledge. The extent of the knowledge is also defined in the philosophy. There are various approaches of research philosophies namely Positivism, Pragmatism and Interpretivism. Positivism suggests that the only way to reach to the truth is science (Saunders et al., 2019). This is a philosophy that encourages the use of scientific methods and techniques. As a result, the adoption of the philosophy leads to the adoption of statistical analysis. The research philosophy is not relevant to the current study as statistical analysis is not one of the main objectives of the study. No statistical analysis has been conducted in the study; rather, financial information has been qualitatively evaluated. The pragmatism, on the other hand, focuses on action-based research (Mackey & Gass, 2015). It emphasizes on multiple realities and suggests that no one interpretation could explain the realities of a phenomenon. Consecutively, the philosophy encourages to use the qualitative analysis as it enables investigations from multiple perspectives (Saunders et al., 2019). At the same time, however, it may not be relevant to the current research study due to its particular emphasise on action-based research. The study is designed to focus on multiple factors, with each having its distinctive background and implication. The current research is based on Interpretivism philosophy. It defines that a phenomenon could be explained and elaborated in different ways, and the action plans define the relevancy of the concept. The medium of reality under Interpretivism is a social construction (Robson, 2011). The philosophy encourages the adoption of diverse approaches to study the different phenomenon and relates to the position of idealism. The current research study has been patterned on Interpretivism as Development of Accrual accounting in the oil industry requires evaluation and analysis from different perspectives. This has been analysed in the paper in the form of financial, turnover and complexity evaluation and, therefore, more than one perspective has been observed. Consequently, the study would also be based on qualitative data.

**3.2 Research Approach**

The research work is modelled on the inductive approach. In this approach, observation is used to primarily identify and research the patterns. In the next phase, theories are developed, and the hypothesis is used to define the patterns. One of the most powerful features of inductive research is its capacity to change the direction of the research (Flick, 2015; Saunders et al., 2019). Empowering the researcher, the inductive approach encourages the adopting a different approach if the alternative method is more reliable and suitable. The mechanism in this manner emerged to be a bottom-up approach, and the researcher moves from a specific to the general direction. The researcher, consecutively, is benefited in different ways. He is able to evaluate the data, identify the pattern, interpret them and finally lead to the development of new theories and concepts (Saunders et al., 2019). The inductive approach enables the researcher to adopt a multi-dimensional approach and explain and observe different perspective and multi-dimensional aspects of the subject matter. The current research study was modelled on the inductive approach because the topic of Development of Accrual accounting in the oil industry requires a multi-dimensional approach of analysis. The inductive approach was, therefore, deemed the most appropriate one.

**3.3 Research Design**

The exploratory design approach has been used in the current study. Conclusive evidence is not emphasized upon in the design, rather, it encourages to explore the topics from different angles (Kumar, 2019). As the research stream progresses and the researcher is able to obtain new facts, figures and data, he could enhance, improve and further develop the research effort. The current study is based on a qualitative research methodology and secondary data has been incorporated in the study. The selection of these methodologies is based on a number of reasons. The Development of Accrual accounting in the oil industry requires that the historical development and progress in this area must be evaluated comprehensively. Furthermore, there have been various analytical reports and accounting investigations which are specifically focused on the implementation, operations and impact of accrual accounting on the oil industry. By the use of the qualitative approach, all these reports could be used in the analysis, and different perspectives and approaches could be identified (Silverman, 2016). It was believed that qualitative methodology with a secondary data approach would allow a more comprehensive and thorough analysis of the data which could not have been achieved through alternative methods. Most importantly, statistical analysis may not effectively reflect and explain the challenges of accrual accounting which could only be understood by a qualitative analysis.

**3.4 Data Collection**

The data required to conduct the analysis was based on financial and qualitative information of the Chevron Corporation. The information was retrieved from the financial statements of the company included in the published Annual reports. Financial databases from the reliable and credible sources containing information on the share price were also accessed to gather historical share price of the company. Reports published by top auditing network of firms such as Price Water Coopers (PWC) were also incorporated in the analysis. The company reports submitted to the U.S. Securities and Exchange Commission database were also retrieved to analyze the information in terms of recommendations towards accounting standards. Publications by international organization such as Organisation for Economic Co-operation and Development (OECD) were also incorporated in the analysis. Institutional reports such as published by the Federal Energy Regulatory Commission were used to gain information on the oil industry and the implementation of US GAAP in oil companies.

**3.5 Inclusion and Exclusion Criteria**

The first inclusion criteria focused on the cut off period. This was set as 1991 and any source older than this was avoided. The second parameter focused on incorporating information from both accounting and oil sector. The parameter was set so that diverse information on the operational and financial performance of the oil companies could be obtained. The third inclusion criteria focused on including only official information that has specifically been provided by the Corporation in focus (Chevron). The first exclusion criteria defined that studies based on subjective data were not incorporated in the research. The second exclusion criteria focused on excluding all non-English language resources. This was designed as the large oil companies belong to English speaking countries such as the United Kingdom and the United States. The third exclusion criteria focused that information from non-reliable sources (beyond databases and official media of Chevron) is not included in the study.

**3.6 Data Analysis**

The data obtained through different databases and official reports were analyzed by adopting a thematic approach. The first step in the thematic analysis is the familiarization of the data. This is achieved by reading and understanding the data in a careful manner. A single topic is investigated from different perspectives and by different sources. The familiarization of the researcher with a different type of information is the basic objective in the first step. Specific topics such as the history of accounting, the evolution of accounting, cash and accrual-based accounting, implementation of accrual accounting in oil companies and similar other topics were explored and evaluated in-depth.

The second step in the thematic analysis is the coding of the data. After the researcher carefully familiarizes himself with the information, it is coded by providing specific names and titles. For example papers that discussed how accounting has evolved since 1900 were coded as “accounting evolution”. The papers that described in detail the development of the standards were coded as “accounting standards”. Papers that discussed the strength and weaknesses of accrual-based accounting were coded as “accrual accounting system”. Similarly, various other themes and sub-themes were developed. At the end of the process, sub-topics were identified and were placed under broader themes.

The third and final step was that of the review and finalization of the codes. A review enabled to identify merge various sub-themes into one specific category. Similarly, few themes placed under incorrect categories were correctly placed. “Interpretation of Accrual information” was placed in Features of Accrual Accounting however it was then transferred to “Challenges of Accrual Implementation”. Few of the themes were removed while a few others were added to further enhance and enrich the topic. Themes such as “Interpretation of GAAP Standards” “Interpretation of IFRS Standards” were removed while “Chevron Financial Data” was added. Through this practice, the researcher was able to focus on the most relevant information only and data not associated with the subject was effectively filtered out.

**3.7 Research Ethics**

The first research ethics followed was complete adherence to the guidelines and policies of the University of Essex. Secondly, the sources and material used in the study were effectively recognized, and it was ensured that credit to contributors to the study had been provided in an appropriate manner. It was also ensured that data which is not publicly available is avoided and only publicly accessible information has been incorporated in the study.

# 4. RESULTS

The chapter of results will dwell in depth in the areas such as impact on the profitability of accrual accounting, the challenges faced in terms of turnover and the issues related to the complexity. Moreover, this section will emphasize an impact of the Chevron on the evolution of the accounting method. In addition, this part of the research examines whether results based on retrieved secondary data can be witnessed by literature review or not.



## Impact on Revenue and Profitability

Chevron Corporation started using Accrual accounting in the mid of 1990. Before that, the company had been preparing its financial statements on a cash accounting basis (Froehlich & Melvin, 2018). The company uses a mix of accounting methodology where financial statements are prepared on accrual, but tax reporting could be based on cash accounting (Chevron, 2020). This is a normal practice in the oil industry as the regulations of tax require a different disclosure as compared to the disclosure required under the corporate governance regulations. After the implementation, it is essential to evaluate the impact on the performance. One of the most significant measures to evaluate the performance of a public listed company is the change in its share price. In the middle of 1990, the share price of the company stood at $19.80. At the end of the year, the price of the stock fell to $17.87 (Figure 1). The change in share price showed that immediately after the accrual implementation company had faced deterioration in performance which is indicative of its market price. The share price of the company further dropped to $15.40 till February 1992 (Figure 1). However, this was the final time when the company faced a difficult situation, and since then the share price of the company continually increased till 2016, indicating a positive impact on the performance of Chevron in the post-implementation period. The accrual accounting now provides an accurate and true and fair view of the financial position of Chevron.

According to the financial statements of the Chevron Corporation, delivery for different oil products such as Crude or Petro-Chemical items is considered as separate performance obligations. The satisfaction of the performance leads to the recognition of revenue (Chevron, 2020). The delivery of cash is expected within 30 days of the performance (Chevron, 2020). This measure is Chevron-specific. Chevron’s revenue in the initial ten years of accrual implementation showed an increasing trend (Figure 1). From the context of its operations, the company recognizes revenue when it is earned (Pratt, 2010). Consecutively, the earnings are not reflective of the cash proceeds that are received by Chevron in the subsequent period. To evaluate the effectiveness of the revenue and the collection of subsequent cash, an evaluation of the financial ratios of the company is important. The most significant of these ratios are days sales outstanding, days inventory, and days payables.

The first ratio signifies the number of days that Chevron takes to collect the cash from the revenue it earned. In the initial ten years of accrual implementation, fluctuations have been witnessed in the measure of days sales outstanding (Figure 2). Due to the unavailability of figures, data has been extracted from 1994. In that year, the number of days Chevron took to receive cash for its revenue stood at around thirty-nine days. It reached twenty-six days in 1999 which could be termed the lowest days in the decade (Figure 2). The measure is indicative of the fact that with the passage of time, the time between the revenue recognition and receiving of the cash considerably reduced.

The days inventory suggests the time that Chevron takes in converting its inventory into sales. In the initial ten years of the accrual implementation, the conversion time of inventory into sales has decreased considerably. This is in line with the days sales outstanding of Chevron. From thirty seven days in 1993 to fourteen days in 2000, the inventory days have generally declined (Figure 2).). The incorporation of multiple variables suggests that while the time of inventory sales from 1993 to 2000 years has declined, the distance between recognition of revenue and cash collection has remained visible, however, considerably lower than the initial period of accrual implementation. The difference could be observed from the fact that in 1994 Chevron took thirty-seven days to sell the inventory and thirty-nine days to receive the cash, which significantly reduced to thirteen days to sell the inventory and thirty days to receive the cash in 2000 (Figure 2). The information reflects effectiveness in the revenue recognition practices of Chevron Corporation.

In the initial ten years of accrual implementation, the revenue of Chevron Corporation has increased generally (Figure 3). The percentage change in revenue and profitability of Chevron is positive however it is increasing at a decreasing pace every year. The recognition of the revenue is based on the accrual principle. The cost of operations and other expenses have also increased from 1991 to 2000 (Chevron, 2001). However, a careful evaluation suggests that the magnitude of the same is lower than the increase in revenue of Chevron Corporation (Figure 3). The % change in revenue in the year 2000 is greater than the % change in cost. This could be associated with two specific factors, the effectiveness of management operations and an effective accounting system. Again analyzing the same on the principle of accrual, both the revenue recognition and expenditure recognition are not associated with receiving the cash. However, the management of both the core components of financial statements reflects robustness in the accounting system of Chevron Corporation.

The qualitative difference in the revenues and expenses also reflects the strategically improved translation of profit (Tordo et al., 2011). Nevertheless, it may be important to note that all companies may not be able to extract the greater benefit of the accrual system in terms of revenue and profitability as has been the case with Chevron. The case of each company should be evaluated separately.

## Impact on Relevant Stakeholders

The first and foremost relevant stakeholders are the executive and staff of the Chevron Corporation. Previous models have indicated that the implementation of accrual has led to various challenges and problems for the staff, especially the finance managers and accounting controllers (Devonport, 2011). From understanding to interpretation, training, and familiarity there have been various issues that a corporation faces (PWC, 2018).

Chevron Corporation also went through these stages in the transition to accrual accounting. The initial reaction of the accounting controllers was also negative until they became fully familiar with the accounting system in a few years. This is in line with the theory of organizational change and resistance identified by Erwin & Garman (2010). Chevron Corporation had a team of financial managers with vast experience that enabled it to get through the transition process. The executives also enabled training for the staff and accounting controllers through which they were able to tactically and operationally implement the accrual accounting system in Chevron Corporation (USSEC, 2012).

In the initial ten years, the percentage turnover of the company has been in an increasing trend (Figure 3). The contribution of finance managers and accounting controllers cannot be undermined in this regard. At the same time, the accountability of the Chief Financial Officer also further increased. The accrual accounting system requires a higher integration of efforts from the top executives in terms of policy formulation and implementation (Chevron, 2010). This logically led to higher accountability of the Chief Financial officer. The commitment of accounting officers was also essential as without its swift implementation of the system is not possible. One of the significant costs that companies moving to accrual have to incur after the training cost is that of the technological cost.

More sophisticated computers, software, and systems are required which may provide a more accurate estimation of the revenue, expenses, and valuations (Chevron, 2015). Chevron Corporation also had to invest in technological equipment and training programs for the staff.

## Challenges and Complexities

Chevron Corporation faced several challenges in the implementation of the accrual accounting system. One of the earlier challenges that the company faced was in terms of strategic restructuring. The IT system of the company and the technological framework required major overhaul and upgrading (Sethi & Gupta, 2013). To support the recording of more complex and complicated transactions, Chevron had to introduce considerable investment in its IT structure (The Access Group, 2020). This did not only require investment in terms of financial resources (Chevron, 1996) but in terms of human resources as well. The staff entrusted with the responsibility to operate the IT system required training. Consecutively, the corporation had to incur material investment in enhancing the technological framework and skills level of the staff. Incorrect valuation of assets and liabilities was another important issue that Chevron faced in the post-implementation period (Foehr et al., 2010). As compared to the cash accounting system in implementation, the Corporation had to use accrual principles to recognize both revenue and capital expenditures. Consecutively, it led to some initial difficulties incorrect estimation and valuation of the assets and liabilities (Njuguna, 2014). Furthermore, as the corporation dealt with extractive products, this made the valuation of the current assets and liabilities even more difficult. Similar difficulties were also observed in revenue and expenses. As compared to the cash-based accounting, the staff at Chevron now had to ensure that their revenues must match with their expenditures. This required a more complex evaluation of the transaction, which combined with new experienced staff led to many errors in recording, recognition, and interpretation.

Another important issue that a company faces during the conversion process is the resistance from shareholders and errors in the revised financial statements (Ahmad, 2016; Froehlich & Melvin, 2018). In order to overcome the challenges, the Corporation had to introduce internal auditing mechanisms, so that errors and inaccuracies in the financial systems could be resolved and identified at the earlier stages (Chevron, 1996). The role of audit committees was crucial in this regard. The external auditors are the second layer that serves as an outer core of protection to ensure that financial statements reflect a correct picture and is free from material error and misstatements (Chevron, 2021).

## Impact on Evolution of Accounting Standards

The IFRS was first developed to bring harmonization in the accounting system of the European Union, however, immediately gained worldwide attraction. The international accounting standards were elaborated by the board of IASC Between 1973 to 2001, and various adjustments were made to make them more applicable and practical as per changing business and corporate requirements (FASB, 2021). In 2001, the IASC was transformed into IASB. Since then, the accounting board has continued the development of various standards termed as International Financial Reporting Standards. One of the main standards that are highly important for Companies related to extractive industries is IFRS6. The standard was issued in 2004 and was termed effective for implementation from January, 2006. In 2005, adjustments were made for the first time adopters of IFRS (Bellandi, 2012). The modifications were aimed at making the adoption of the standard smooth and feasible for implementation. The standard focused on exploration assets and exploration expenditures. The standards defined that exploration assets should be included at cost in the financial statements. After recognition of the cost, either IAS 16 or 38 could be implemented for the asset. In 2019, the board started its research on identifying the opportunities for amending or replacing IFRS 6 with a new standard.

Prior to the development of IFRS 6, Companies such as Chevron emphasized on SEC to overrule the efforts of FASB that aimed at reducing the choice of accounting method (Cortese et al., 2010). The practice remained continued till 1998 when IASC started its project to develop a standard for the extractive industries. The development of IFRS 6 was an outcome of such efforts of IASC, however, it too did not limit the choices rather focused on codifying the already in practice industry methods (Cortese et al., 2010). Oil exploring companies such as Chevron were able to influence the FASB and IASC through lobbying and continuous efforts so that different methods of accounting could be retained for exploration and evaluation costs (Cortese et al., 2010). Chevron believed that in the absence of a structured standard, IFRS 6 could lead to compromise on transparency and informational content for the shareholders and investors (USSEC, 2012). Chevron also supported that the adoption of IFRS 6 would lead to the conversion of US GAAP into a US version of IFRS (USSEC, 2012). This, in their view, was infeasible from the context of adopting a unified and singular approach for a global accounting standard.

## Discussion

Adhikari et al. (2013) suggested various challenges that an organization might face in the implementation of accrual accounting or from the conversion of cash to an accrual system. One of the first challenges identified by him was the investment of financial resources in the conversion of the accounting system. The results profoundly validate this argument as it was identified that Chevron Corporation and the general oil industry had to incur considerable resources on various fronts. The results validated the assertions of Adhikari et al. (2013) and Chevron also had to go through a similar process in the implementation of the accrual. The company invested a considerable sum in enhancing and upgrading its technological and financial framework. It is important to note that resources implemented were not only limited to finance, but investment in terms of human and technological resources was also a part of the conversion process. The results, therefore, suggest that any company that converts to an accrual accounting system has to bring a major overhaul in its financial and technological structure. Without so doing, the company cannot effectively reap the benefits of the accrual accounting system. This could be therefore argued that larger corporations aiming for developing and enhancing their accounting system and opting for accrual should vary of the investment requirements.

Becker et al. (2014) suggested that accrual implementation would require a team of savvy financial experts that may monitor the accrual efficient process effectively. The results validate these points and it was identified that accrual implementation in oil companies was monitored and implemented by financial experts in those companies. Chevron had a team of financial experts that contributed greatly to the implementation of the accrual system. The training was provided to the staff, and the skills of the employees were enhanced to ensure that the implementation process is completed smoothly. Accrual implementation is a challenging and complex task. As a result, companies need to have a trained cadre of staff to ensure its effective implementation. The results also validate this assertion.

One of the earliest challenges that Chevron had to go through in the implementation of Accrual accounting was the need for trained staff. Due to the complexity of the accounting system, the normal working procedures of the accounting department become ineffective. Consecutively, the company has the option to enhance the technical knowledge of the existing staff or opt for hiring new staff. The results, however, suggest, that under the supervision of its core executive leadership, the company was able to complete a shift from cash accounting to accrual accounting within a period of a few years. The company focused on successfully increasing the capability of the staff so that they could be able to deal with the complexities of accrual accounting its implementation. The results, therefore, signify that companies have to specifically focus on their accounting and finance staff and without their skills development, the company may not be able to effectively cope with the challenge of accrual implementation.

Adhikari et al. (2013) suggested that another important challenge that companies might face with adoption of accrual accounting is the interpretation of the financial information as per the standards. This could be challenging as inexperience, and lack of technical knowledge may lead to errors and misrepresentation in the financial numbers. The results also suggest that oil companies have to go through this struggle for a certain period. Results identified that in the case of Chevron, the company also faced this challenge. During the initial years, similar to other entities in the oil and other sectors, the staff at Chevron made errors in recognition of the transaction and expression of financial numbers while preparation of financial statements. However, the management at Chevron was able to effectively deal with the problem by maintaining tighter control of the internal and external auditing during the transition process. This ensured that errors and mistakes committed at the stage of accounts preparation are identified before the publishing of financial statements.

Becker et al. (2014) et al. argued that only large public listed corporations with an effective team of accountants and financial experts could implement accrual accounting. The results also validated these points. Evaluating the challenges and complexities faced by Chevron, it could be argued that individual businesses may find it extremely difficult to convert from cash to an accrual system of accounting. It could be argued that they may not possess the required resources that could be termed integral for the conversion process. Furthermore, the experience of Chevron and oil companies, in general, suggests that oil companies during the conversion process should keep a strict check on the financial accounts and should have a mechanism in place that may assist in reducing the errors and misrepresentation associated with the conversion process.

Prencipe et al. (2014) suggested that accrual accounting leads to more accurate results, more transparent, and tends to be more reliable. Without these outcomes, the basic tenets of the accrual would remain ineffective. The results identified that the adoption of accrual accounting led to the improvement in the performance of Chevron Corporation. It is noteworthy to mention that accrual accounting did not bring an instant improvement in the performance of the company neither since the implementation brought only positive results. There were a few years in the decade when the performance of the company declined. However, it is important to underline that after the accrual implementation, the performance of the company has generally improved. While there were a few difficult years, the general and consistent trend was an increase in the revenue and the profitability of the company. After the accrual implementation, the company was also able to bring an improvement in the operations. The reduction in the inventory days and days sales outstanding was the evidence of the fact that a considerable improvement has been witnessed in the company’s performance.

Teoh et al. (1998) suggested that due to the complexity of accrual accounting, there are greater chances of manipulation. The results, however, do not validate the arguments of Teoh et al. (1998) and it was observed that companies in the oil sector tend to especially focus on ensuring that no manipulation is carried out by putting strong checks in place.

Odia & Ogiedu (2013) suggested that the implementation of the accrual system requires considerable time lag, and it is a project of longer duration. The adjustment may require a few years to fully capitalize on the benefits of the conversion. The results also validated these points as Chevron Corporation had to struggle for the initial few years after the accrual accounting. Its share price remained down for two years, and the company struggled with reaping benefits for three years. However, once the system was fully implemented, the company was able to reap the benefits of accrual accounting. This did not only lead to a more reliable and transparent disclosure of the financial information but also assisted management in making more informed decisions.

Harun et al. (2012) suggested that other than financial resources, the company implementing the conversion process will have to focus on employee training and support. The results also validated these points, and Chevron also specifically worked on training the employees and supporting them through various means. The executive leadership of Chevron, therefore, provided the guidance that was necessary to motivate and inspire the staff to continue this conversion process without a hassle.

Mihriban (2017) implied that globalization has transformed the practice of accounting at the corporation. Standardization has further led to the adoption of more unified approaches. The results, however, do not validate the arguments of Mihriban (2017), and it was identified that Oil companies such as Chevron have lobbied with other companies to ensure that it is provided with the opportunity to use the accounting methods of its preferences. The introduction of IFRS 6 also could not effectively resolve the issues that are associated with the selection of accounting methods. From this perspective, it could be argued that rather than focusing on unified accounting approaches, they are more concerned for approaches that they have been practicing for a long. Consecutively, the issues related to the comparison of different companies and accounting methods will remain unsolved.

Sargiacomo et al. (2012) emphasized on the effectiveness of the accounting method rather than focusing on unification. The results also validate these points and it was observed that for a long, the oil companies in the United States are striving for more freedom in terms of selection of accounting methods as compared to focusing on unification of methods. It may be important to note that management at Chevron and other oil corporations are not interested in a standard similar to IFRS6 in US GAAP as they believe that such an approach will lead to the conversion of US GAAP into a US version of IFRS. The companies also believe that such changes will create new complications for oil companies and may lead to more restricted practices in the oil sector. From this perspective, it could be argued that in the foreseeable future, until a major development takes place, the oil companies may oppose the unification of the standards.

The report of the PWC (2017) emphasized that as a result of the global changes in the oil industry, the oil companies adopted revenue recognition and cost measurement accounting measures. The results do not support these ideas and suggest that in the current global environment, the companies are still in a process to ensure that they could use methods that are more relevant to their operations. One aspect of this is the fact that companies prefer ease and comfort over transparency and accountability. However, the argument cannot be accepted on the grounds that companies have specifically focused on accrual accounting for the preparation of the financial reports. The only reason that could be justified in the view of the findings is that oil companies operate in a different environment to that of other businesses. This could be one of the reasons, that oil companies expect a complete solution for their accounting requirements and believe that current standards are not able to serve these purposes.

Wright & Gallun (2005) suggested that the Oil Industry Accounting Committee (OIAC) established in the United Kingdom played an important role in settling the oil industry standards. The results, however, did not validate these points and no significant contribution of the Oil Industry Accounting Committee (OIAC) could be witnessed in the particular context of the oil industry and oil companies in particular. On the contrary, it was observed that companies preferred to use their versions of accounting methods such as US GAAP for US Oil companies as compared to the standards set by the Oil Industry Accounting Committee (OIAC).

Edwards (2013) emphasized that a lack of harmonization between the different oil accounting standards leads to technical infeasibilities for the oil accounting companies. It does not only lead to problems for the shareholders but the authorities as well. The results also validate these findings and it was observed that during the accrual implementation, the shareholders of Chevron had shown initial resistance in accepting the accrual accounting system. It was based on several different factors which included complexity and challenges in the interpretation of the financial information. However, it was also observed that with time, and with greater confidence provided by the accrual system, the stakeholders tend to adopt it after a certain time.

Abdulrahman & Abdal (2019) suggested that the development of IFRS6 has tremendously assisted the oil companies in terms of preparation, analysis, evaluation, and comparison. The results, however, do not validate the findings. It was observed that IFRS 6 has provided more clarity on the preparation of the accounts of the oil companies. The US companies such as Chevron as still practicing US GAAP for the creation of their accounts. Consecutively, the development of IFRS 6 may not have fundamentally altered the financial statement development process of companies such as Chevron. However, it could be argued that if such provisions are also adopted in US GAAP, the US companies such as Chevron may then be required to use similar provisions to that of their British counterparts.

Babusiaux (2007) argued that at present two different standards are in the implementation where European companies prepare their financial standards based on IFRS while US companies rely on US GAAP for the preparation of their annual reports. The findings also suggested that while IFRS has led to various developments since 1974 and post 2000 a specific standard in the shape of IFRS 6 has also been developed for oil companies. However, US companies such as Chevron tend to follow the US GAAP for the development of their accounts. It is also noteworthy that findings did not indicate any specific development in terms of harmonization between the oil standards of US GAAP and IFRS. On the contrary, it was identified that the international body responsible for the development of the financial reporting standards is working towards further enhancing the existing IFRS 6 or could replace it with another standard.

Cangiano (1996) suggested that accrual accounting could be termed more reliable and transparent, and consistency could be observed in the financial disclosure as a result of the accrual accounting. The results also validate these points, and it was observed that even though considerable investment had to be incorporated from conversion to accrual from the cash accounting system. Chevron Corporation was able to reap the benefits of it in the long run, and its financial disclosure became more comprehensive, reliable, and transparent as a result of the accrual implementation. This also signifies that while there are challenges in the adoption of the accrual. Its long-term benefits considerably outweigh its long-term cost involved.

Eriotis et al. (2011) focused that the implementation of accrual accounting is not without its challenges. There are serious issues that the companies have to face during the implementation process. The findings also validate the claim raised by Eriotis et al. (2011). It was observed that the company had to face a number of challenges in the accrual implementation. From increasing its financial investment to capacity building, there were several milestones that Chevron Corporation had to go through to ensure effective implementation. More importantly, the company had to make major changes in its existing framework, both accounting and technology, to fulfil the requirements of the conversion process. However, it could be argued that once the objective was achieved, the company was in a stronger position in terms of financial disclosure and reporting.

Njuguna (2014) focused that due to accrual accounting implementation, one of the most important objectives achieved by companies is the increase in the accountability of the executives. The findings validated this argument, and it was identified that with greater accrual implementation, the company was able to increase the accountability of its main executives, such as the CFO. The phenomena define that with accrual system in implementation opportunities for manipulation considerably decrease invalidating the arguments of Teoh et al. (2011), which were in contrary to the findings.

Cavanagh et al. (2016) and Moretti & Youngberry (2018) suggested that transfer from cash to accrual has a benefit for the stakeholders. An important benefit is the reduced cost of information processing (Cavanagh et al., 2016). The findings, however, do not validate this argument, and it was found that accrual implementation increased the cost of information processing. This is due to the fact that information created on the basis of accrual principles is complicated and prone to errors. To cope with these companies have to incur additional costs in terms of internal and external auditing to ensure that errors and problems are eliminated at an earlier stage. For outside stakeholders such as shareholders of the company, the information processing may still incur a cost as general investors are not aware of the principles and rules of accrual accounting. As a result, they would need external assistance in fully understanding the accrual accounting system. As a result, information processing cannot be termed cost-effective in the context of accrual due to the complexities involved in the interpretation of financial information.

Khan & Mayes (2009) emphasized that accrual accounting enables a more comprehensive comparison of information between different years and periods. The findings also validated this argument, and financial information of Chevron of different periods was effectively analyzed. The changes in different periods were observed and the effectiveness of the accrual system in relation to financial information was elaborately observed.

The data analyzed in this chapter indicates that implementation of the accrual accounting impacts on financial reporting of the organization in initial years; however it brings accountability and transparency as well as increase a trust among stakeholders in financial reporting. For successful implementation of the accounting method it is essential for an institution to have a capability in resources as well as in technologies to ensure a smooth shift.

The next few chapters highlight reflection, conclusion and recommendations for a next study.

# REFLECTION

The research study opened new gates of knowledge and understanding for me which cannot be obtained from a conventional classroom environment and book learning. In order to complete the research, I had to go beyond my usual sources of knowledge and explored new sources of information, data and education. The research project enabled me several outstanding learning opportunities that I expect would assist me in my further academic and professional career.

My research process began with data collection. This was a very challenging step for me as I come to realize that there are various obstacles in collecting relevant data. Different information was available from different sources, however, at first, I had to evaluate that information gathered is from a relevant source. The first venture was, therefore, to differentiate between authentic and inauthentic sources.

Once I was able to make this distinction, the next challenge was the availability of required information from these sources. While a source may be authentic, it not necessary that required information may be available from that source. This was also the main challenge, and I must confess that various desired information could not be found. However, the collected information was not only relevant and authentic but complete enough to continue the research process.

As soon as the information was obtained, the next biggest challenge was the method of analysis to adopt to ensure that information has been processed in the most relevant manner. I faced the challenge of the selection of research methodology. I could evaluate the information, both quantitatively and qualitatively. The findings of both methods were expected to be relevant and necessary for the research study. However, considering the nature of the subject and its vastness I considered it appropriate to conduct a qualitative analysis of the data as compared to quantitative analysis.

After the process was completed and analysis was effectively done, the main challenge for me was to fight with my own pre-established concepts ideas, and opinions. During the entire research process, I came through a number of facts that challenged my pre-established concepts. I identified that my information on the number of aspects was incorrect or incomplete. As a result, I had to incorporate the data that I did not believe previously, but had to change my opinion as fact and figures defied my information. I could therefore claim that with the research project I was able to correct my pre-established misconceptions associated with IFRS, US GAAP, Cash Accounting, Accrual Accounting, the effectiveness of different accounting systems, and the impact of the same the development of financial statements.

The research project enabled me to grasp and obtain a good command over proposal model development. These constructs were associated with the overall research process. I was able to understand the importance and implication of time in the research process and how it should be completed with the constraints. The research study enabled me to further focus, enhance and develop my decision-making and capabilities of judgment while exploring new phenomena. I had the pleasure of contributing to the existing stock of literature by adding my contribution to the specialized subject matter. Future researchers could benefit from the research study and could utilize it for further academic and professional initiatives. The activity provided greater support in understanding the dynamics of theoretical knowledge and its practical implementation that could be utilized by different stakeholders.

One of the main learning objectives of the research study was the integration of data, evidence, and facts to develop a study that explores and explains different theories and concepts. As a result of the research study I could witness significant development in my analytical skills and critical thinking. Furthermore, significant improvement was also witnessed in my knowledge and problem solving skills. A critical evaluation of my learning and knowledge reflects that I could more comfortably explain the complicated concepts that I previously struggled to understand. Overall it could be argued that the research study had familiarized with the concept of fact-based learning. The concept of critical evaluation of information could now be used in other ventures such as conducting more advanced researches. The project also assisted in the understanding of the subject outside of the class environment.

The current study was based on secondary information, and in the future I expect to work on more primary data. This would assist in learning from relevant stakeholders and obtaining information from the most relevant resources. It will also help in building more defined academic and professional relations with peers, faculty members and organizational executives.

# CONCLUSION and RECOMMENDATIONS

The research study examined the topic of the Development of Accrual accounting in the oil industry. The main research question focused on the benefits of accrual accounting for the oil industry. The objective of the study included evaluation of percentage change in terms of revenue and profitability, impact on relevant stakeholders, and the challenges and complexities involved in the adoption of the accrual accounting system.

The results identified that immediately after the accrual implementation; the company faced deterioration in performance. In the ten years post-implementation, the company faced various ups and downs in terms of revenue, profitability and operations however the overall in the decade remained positive and company witnessed a continuous increase in its revenue and profits in the majority of the years. This was not only limited to the financial results but operations of the company as well. Overall the company showed positive performance in the post accrual implementation decade. It was identified that accountability and transparency had been recognised as the key benefits of the accrual accounting system. Successful adoption showed considerable outcomes and enhanced accountability and transparency in financial performance.

## 6.1 Limitations

A number of limitations were faced during the research process. The first limitation was the availability of limited time in the context of the vastness of the topic and the subject matter. Due to time constraints, secondary data were used as a collection of primary data, specifically in the environment of the pandemic, was more challenging. The second limitation was the availability of limited data on the subject matter. While a number of studies could be observed on accrual implementation or oil companies, studies combining both the studies were extremely limited. The third limitation was reliance on secondary data. The analysis is based on data already conducted, however, the contribution of the main stakeholders of the oil industry is not included in the research process.

## 6.2 Recommendations

A number of recommendations are suggested for future research endeavours. The first recommendation is to conduct future research from quantitative as well as qualitative methodology. The second recommendation is to incorporate primary data in the analysis. The third recommendation is to include in the analysis more companies belonging to different geographical regions. It is expected that this approach would help in understanding the subject from the regional and geographical perspective as well. An effective comparison could be made of the different oil companies and the evolution that they have gone through in the implementation of the accrual accounting system.

In terms of practical recommendation, it is suggested that other extracting companies such as Mineral extracting companies could also benefit from the accrual accounting system. By the adoption of the accounting system, the companies would be able to witness consistency and transparency in the financial disclosure and preparation of the financial statements. Moreover, this will lead to the enhancement of the confidence of the shareholders of the mineral extracting companies. It may be noted that mineral extracting corporations may initially face difficulties due to the incorporation of a newer system, however, its long terms benefits are expected to far outweigh its associated cost.

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# APPENDICES



Figure 1: Chevron Corporation market share (TradingView, 2021)



Figure 2: Days Sales Outstanding, Days Inventory and Days Payables (Ycharts, 2021)

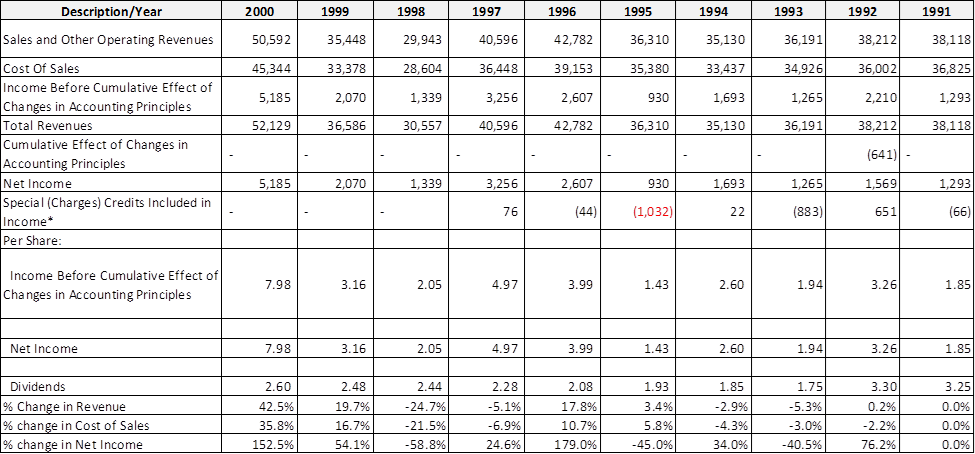
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Figure 3: 1991-2000 Financial Summary (Chevron, 2000 )