

## **Organisational Characteristics, Environmental Factors and Accounting Methods for Depletion, Depreciation and Amortization (DD&A) in Oil and Gas Companies in Tanzania**

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### **Abstract**

*Oil and gas companies are unique in terms of accounting policies and practices. Despite such uniqueness, the oil and gas companies still face the challenge of having a mismatch between revenues and expenses which is significantly contributed by the way an expense on the use of fixed assets is done. Then, the focus of this study to examine factors that influence the choice of accounting policy for DD&A. The study involved 119 petroleum and natural gas companies that were categorised into seven groups. Questionnaire and documentary review were used as data collection methods while hierarchical multiple regression was used as data analysis techniques. The findings revealed that company's structure as the organisational characteristics significantly and positively predicts the choice of reducing balance accounting methods. Firm age significantly and positively predicted the choice of the straight-line method; however, it is relatively weak and reducing balance method. It was further revealed that disclosure requirements had significant positive influence on the choice of the straight-line, reducing balance and unit of production accounting methods. It was further revealed that capital market requirements had different mediating effect on the influence of the selected organisation characteristics and disclosure requirements on the choice of accounting methods for DD and A. Among others, it is recommended that managers should recognise the different influence of company's structure, firm age and disclosure requirements on the choice of accounting methods for DD and A.*

**Keywords:** Organisational Characteristics, Environmental Factors, Accounting Methods for DD & A, and Oil and Gas

### **Introduction**

Oil and gas industry requires a special attention in terms of how they should account for their initial investment (Ironkwe & Promise, 2015; KPMG, 2011). For instance, it is argued that the upfront investment is relatively huge and requires the specific accounting approaches in oil and gas activities, and the choices made on the accounting policies (Ernst and Young, 2009; KPMG, *ibid*). Chalu (2014) argues that oil and gas companies are unique when it comes to accounting practices. Despite the need for the specific accounting approaches and policies in the oil and gas sector (Ironkwe & Promise, 2015); the industry is still characterized by different accounting policies in allocating an expense to investment (Wright & Gallun, 2008). It is important to note that the larger part of investment consists of fixed assets (PWC 2011).

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In this fact, the oil and gas industry mainly focuses on the way investment is valued. This is so important because it determines the capacity of the firm to attract and raise fund for further investment. For instance, Adere (2011) argues that a firm in oil and gas industry may invest a lot in the exploration, extraction and development of oil and gas products and still get little return from such investment. PWC (2011) also argues that the exploration, extraction and development of oil and gas products involve huge investment including fixed assets in a relatively long time.

There are three important ways of measuring the value and expense incurred from the use of fixed assets (Beaver, 1966; Rayburn, 1986; Wright & Gallun, 2005). These ways include depreciation, depletion and amortization. Depreciation refers to the reducing of the fixed asset due to the continued wear and tear of such asset over time (Rayburn, 1986). Depletion involves the quantitative reduction of reserve, quantity or volume of the fixed asset (Beaver, 1966). Amortization means the spread of capital expense for the fixed asset over a specified period of time (Rayburn, 1986). The three ways of determining an expense from the use of fixed asset are important because they determine the failure or success of the firm.

More importantly, the evaluation of fixed assets which form the huge part of initial investment in the oil and gas industry may also be determined by the accounting policies on the way the investment cost is treated. There are two investment costing methods namely, full cost method and successful cost method (Wright & Gallun, *ibid*). Small firms may prefer full cost method in evaluating the fixed assets because it reports high net returns while large firms prefer successful cost method (*ibid*). Some of the companies may also use straight line method while others may decide to use the reducing balance method or Unit of Production as accounting methods for DD & A. In addition, the International Accounting Standard (IAS) 16 which apart from property, plant and equipment deals with DD & A does not explain the single method of determining DD & A however it refers to straight line, reducing balance and unit of production methods (Mgbame, 2016).

Moreover, the choice on whether to use either straight line method, reducing balance method or unit of production method is important for the financial sustainability of the oil and gas firms. Zimmermann (2013) also argues that proper and reasoned choice on the use of accounting methods in business determines effective management of fixed assets by firms and ensures their legitimacy to external stakeholders through financial reports. This is important because the industry is associated with high risks and uncertainties despite the fact that it is considered the major source of income to both oil and gas companies and, the host economy (Wright & Gallun, 2005).

However, differences in accounting methods results to the failure of the decision-making aid criterion whereby two companies of the same size, with similar operations and in the same sector have two different performance figures. Hence, the comparison of their performance becomes difficult and it is not easy for accounting users to make informed decisions. Due to this, it is important to have the harmonized accounting method. Nevertheless, it is important to first examine factors that lead to such difference in accounting methods for DD & A before developing the harmonised accounting method.

For instance, in Tanzania, gas exploration began 60 years ago (URT, 2013). Tanzania introduced several guidelines to ensure that the National and company's interests of stakeholders are

protected. These documents include gas policy, the Petroleum Act of 2015, Local Content Policy for oil and gas industry, Oil and Gas Revenue Act. Furthermore, the country entered into production sharing agreements (PSAs) with the extractive firms to facilitate the exploration and exploitation of natural gas. PSAs provide an opportunity to extractive firms to recover their initial and other operational costs including the costs of fixed assets.

It is in this case that the choice of accounting policy for DD & A is important because it determines the cost to be recovered. Despite the presence of several guidelines on natural gas management and its importance in the life span of PSAs, there is scanty knowledge on the factors that influence the choice of accounting methods for DD & A. But the choice of accounting method for DD & A may be influenced by organizational characteristics (Zinks & Rud, 2005); Fields, Lys & Vincent, 2001) such as company size (Zimmerman, 1990); company's ownership, structure and age (Fields et al. 2001); bonus plan (Zinkeviciene & Vaisnoraite, 2014) and types of operations (Chalu, 2014). In addition, prior empirical studies (Bertomeu & Moguee, 2011; Williams & Meyers, 2010) opine that regulatory factors such as disclosure requirements influence the choice of accounting methods. On contrary, Street and Gray (2004) contend that accounting methods influence compliance to accounting standards which are part of regulation factors. This study focused on age, structure and disclosure requirements because of their influence on other factors that have been mentioned by the prior empirical studies.

Furthermore, studies on choice of DD & A methods may be mediated by the capital market requirements. Economic factors such as capital market requirements (Zinkenviciene & Vaisnoraite, 2014; Milonakis, 2009) are said to have an influence on the choice of accounting methods. However, most studies focused on the influence of accounting standards, particularly IAS 16 on financial reporting and not the broad range of factors that may influence the choice of accounting methods for DD and A.

Some of previous empirical studies concentrated on managers' actions and interests despite the fact that there is a broad range of stakeholders who may influence the choice of accounting method for DD & A. Moreover, the previous empirical literature mainly focuses on the process of choosing accounting methods (Positive Accounting View) and not the outcome of such information (Decision Usefulness View). It is therefore important to consider both positive accounting view and decision usefulness view in examining factors that influence the choice of accounting policies for DD & A. Hence, this study examined factors that influence the choice of accounting methods considering the mentioned gaps.

## **Literature Review**

### **Positive Theory**

The Positive Accounting Theory (PAT) is one of the theories that explain accounting choice. PAT was introduced in accounting through the famous work of Watts and Zimmerman (1986), '*Positive Accounting Theory: A Ten Year Perspective*'. The theory is concerned with which companies would go for what method of accounting (Kabir, 2007). Unlike other accounting theories, PAT, though it is descriptive, focuses on the explanations of the accounting choices and prediction (Ironkwe & Promise, 2015).

The central assumption of the PAT is that all individuals' actions are driven by self-interest and opportunism (Ironkwe & Promise, 2015). Thus, individuals act in the way that their actions

facilitate possibility of maximizing their interests. Being the case, the theory asserts that corporate managers takes any discretionary action they have over the financial reporting process to present themselves and/or their organizations in a desired manner (Whittington, 1987; Ironkwe and Promise, 2015). Hence, there is no need for the accounting regulations because managers choose accounting policies that maximise company's performance and their interests (Ironkwe & Promise, 2015).

Related to the choice of accounting methods, proponents of PAT emphasize that methods chosen by accounts managers in businesses are primarily aimed at reflecting and enhancing the best performance by companies. In addition, the managers are expected to go for methods that can generate information that can clearly provide view into the potential risks by investors. As such, for PAT, there is no need of regulations on financial accounting as such regulations impose unwarranted costs on reporting entities. Related to the study, the theory may suggest that lack of prescribed uniform accounting methods for all oil and gas companies is rationally maintained with the aim of ensuring discretionary flexibility, which is indeed in favour of internal efficiency rather than standardization of accounting methods across the industry (Whittington, 1987). The theory provides clear view into how changes of accounting methods and standards are likely to face negotiation as well as the political process that surrounds making choice of accounting methods (Ironkwe & Promise, 2015; Milne, 2002).

As noted in its main concern and key assumptions, PAT is praised for its capability to 'predict and explain'(Watts & Zimmerman, 1986) practices and behaviour that surrounds accounts management process. However, this leaves a large vacuum and thus may be hardly applicable in companies with limited expertise in areas of decision making and managerial accounting. Equally, PAT is criticized for claiming to have explanatory power, but little capability to explain specifically what is being done in terms of accounting practices (i.e. accounting process) in the most efficient or equitable process (Ironkwe & Promise, 2015; Morris, 1987). However, the theory is relevant particularly in explaining the way companies develop accounting policies that fit their context.

It is therefore important to consider the other theory known as Decision Usefulness Theory (DUT). DUT mainly focuses on the three issues, namely the outcome of accounting process, type of information (Coetzee et al., 2010) and the needs of accounting users (Inanga & Scheneider, 2003). Hence, DUT assumes that accountants know the need of information users and they are assumed common. The theory is relevant in this study because the study assumes that the choice of accounting methods for DD & A does not only depend on the actions of managers but depends on the interests of broad range of stakeholders. Furthermore, the choice of accounting methods for DD and A in the oil and gas industry may be determined by its ability to produce information that accommodate the interests of the key stakeholders and enhance the decision making. The Contingency theory was used to explain the mediating effect of economic situation, capital market requirements and regulatory requirements as environmental factors on the influence of the predetermined factors on the choice of accounting methods for DD & A.

### **Relationship Factors and the Choice of Accounting Methods for DD & A**

This study considers company's structure as the relationship factor under organisational characteristics. Related to ownership and relationship between shareholders and corporate

managers, Fields, et al. (2001) argues that those companies that are managed through strong contractual control of the investors over accounting executives tend to choose accounting methods that seek to maximise profits, control risks, and thus increase incentives to investors. It is also supported by Zinkevičienė and Rudžionienė, (2005) who argue that owners' level of control on corporate process may be one of the key organisational characteristics that may influence the choice of accounting methods for DD & A. This implies that company's structure is likely to have an influence on the choice of accounting methods for DD & A. Hence, the following hypothesis was developed: -

**H<sub>1</sub>:** *Company's structure influences the choice of accounting methods for DD & A.*

### **Company's Age and the Choice of Accounting Methods for DD and A**

Company's age is another company's characteristics that influence the choice of accounting method for DD & A (Fields, Lys, & Vincent, 2001; Zinkevičienė and Rudžionienė, 2005). The company's age may determine the level of an experience that the company may have in the oil and gas industry. The longer the period the company is in the industry may determine its capacity to assess and control the risks hence the choice of accounting method. For instance, companies with limited experience as determined by company's age may prefer the use of the unit of production method and not reducing balance or straight-line methods (Mgbame, et al. 2016). This implies that company's age is likely to influence the choice of accounting methods for DD & A. Hence, the following hypothesis was developed: -

**H<sub>2</sub>:** *Company' age influences the choice of accounting methods for DD & A.*

### **Environmental Factors and the Choice of Accounting Methods for DD&A**

Environmental factors include economic factors and the accounts disclosure requirements. These factor are the ones that may have an influence on the choice of accounting methods in the oil and gas industry (Hagerman and Zmijewski,1979; Williams and Meyers, 2010; Zinkeviciene & Vaisnoraite, 2014).

### **Accounts Disclosure Requirements and the Choice of Accounting Methods for DD&A**

Different scholars portray differently the influence of regulatory forces on the accounting methods choice. Bertomeu and Magee (2011) Emphasize that regulation of both sectors and financial conditions determine uniformity or difference in accounting choice. For them, businesses can directly be regulated through political control and indirectly regulated by financiers by requiring them to abide by specific accounting policies. Others such as Williams and Meyers (2010) argue that companies in the oil and gas industry are likely to follow similar accounting policies if they are clearly aware that they are required by laws to follow specific accounting laws and standards.

According to Adere (2011), regulation may also appear in the situation where regulatory bodies in a country specify mandatory accounting changes that should be adopted by oil and gas companies. Changes in accounting standards, automatically leads into some changes in methods and general accounting policies. Even where companies are not in favour of such changes, companies are bound to comply with such changes since regulatory controls initiate compulsory changes. Watson, Shrives, and Marston (2002) Argue that price regulation laws encourage companies to change accounting policies compared to companies engaged in businesses that are

not regulated. While the literature show that regulation affects changes in accounting methods, there is limited adequate empirical evidences on influence of regulation on accounts disclosure requirements on the individual accounting methods for DD and A. The following hypothesis was therefore developed: -

**H3:** *Regulations on accounts disclosure influence the choice of accounting methods for DD & A*

### **Economic Determinants of the Choice of Accounting Methods for DD&A**

Hagerman and Zmijewski (1979) Describe some major economic determinants for accounting choice. They point out that the level of capital intensity of the company and competition that the business faces are important economic determinants of the choice of accounting policies. In addition to these determinants, (Watts and Zimmerman (1990); Zinkeviciene & Vaisnoraitė, 2014) add two other factors as grouped in the economic category. These are the existence of bonus plan, and leverage ratio. While these factors are considered to be primary, in the view of Hagerman and Zmijewski (1979), factors such as bonuses within firms are secondary as they come after company size, age, and location.

Variations in the categorizations shows that there is no consensus on what factors should be objectively treated as economic and which one are to be excluded from the economic category. Recognizing this inconsistency in the classification, one may subscribe to the views of Fine and Milonakis (2009) that despite the shifting boundaries, the distinction between economic factors are too fussy to clearly separate them. Thus, it is better to select few determinants that best suit in the economic category such as capital market requirements that may determine the choice of accounting methods. According to Zinkevičienė and Rudžionienė (2005), companies that operate in environments that their equity is low compared to assets are flexible enough to accept changes in their accounting method as demanded by financiers. Then, the following hypothesis was developed: -

**H4:** *Capital market requirements mediate the influence of the selected factors on the choice of accounting methods for DD & A.*

### **Research Methods**

The study used cross sectional design and involved oil and gas companies that whose headquarters were all located in Dar es Salaam. As per the Energy and Water Utilities Regulatory Authority (EWURA) report of July 2015, there were 700 petroleum and natural gas companies. In this case, the study involved 119 petroleum and natural gas companies. Stratified sampling techniques were used because the oil and gas companies were categorized into three groups basing on the type of their operations. Questionnaire forms and documentary review were used to collect data. In documentary review, the financial reports prepared within the period of five years were reviewed. Hence, data collection methods were triangulated in order to enhance the reliability of the collected data particularly the use of accounting method for DD and A. Questionnaires were used to collect primary data while documentary review was used to collect secondary data. Furthermore, Cronbach Alpha was used as the reliability test and the Cronbach Alpha Coefficients of all variables were at least 0.7. Hierarchical multiple regression and percentages were used as data analysis techniques. The content analysis was used to analyse the secondary data.

## **Research Findings**

### **Company's Characteristics**

A total number of 119 companies in the oil and gas industry were involved. Of the 119 companies, 77 (64.7%) companies were between 0 and 5 years of operation in Tanzania, 37 (31%) had 6 to 10 years of operations in Tanzania, and 5 (4.2%) had more than 10 years of operations in Tanzania. In terms of location, 106 (89.1%) companies were located in Dar es Salaam City while 13(10.9%) companies were located in Kurasini. The headquarters of companies were located in different areas of Dar es Salaam including Gerezani 8 (6.7%), Changombe 5 (4.2%), Kariakoo 4 (3.4%), Kigamboni 11(9.2%), Kurasini 41 (34.6%), Masaki 45 (37.8%), and Nyerere road 5 (4.2%).

## **Factors Influencing the Choice of Accounting Methods for DD&A**

### **Descriptive Results**

According to Oxford and Burry-stock (1995), the Mean score that ranges between 1 and 2.4 indicates the low influence, 2.5 to 3.4 indicates the medium influence while 3.5 to 5 indicates the high influence assuming the Likert scale of 5. The descriptive statistics showed that the company's structure as the organisational characteristic was widely considered in the choice of accounting methods for DD & A compared to firm age. 'The company' structure had a Mean score of 3.3834 while the firm age had a Mean score of 1.5681.

In the case of environmental factors, disclosure requirement and capital market requirements were not widely considered in the choice of accounting methods. Disclosure requirements had a Mean score of 1.9321 while capital market requirements had a Mean score of 2.1345. The relatively low consideration of disclosure requirements was contributed by the lack of locally accounting standard that guides the account of DD & A in the oil and gas companies as the special industry. On the other hand, the relatively low consideration of capital market requirements was contributed by the fact that capital market requirements were considered to be determined by the country's economic situation.

### **Inferential Results**

The collected data were normally distributed and screened in order to detect the outlier. The outlier labelling method with the multiplier factor of 2.2 was used to detect the outliers and four questionnaire forms were found to have an outlier. The trimming method was used to eliminate the outlier because the trimming rate was not above 15% as it has been recommended by Othman, et al. (2004) and Keselman, et al. (2004). The multi-collinearity was also assessed using tolerance value and value inflated factor. The tolerance values for all independent variables were greater than 0.1 while the value inflated factor for each independent variable was less than 10. It then indicated that there was no a problem of multicollinearity as it has been suggested by Williams, (2015). The categorical data i.e. company's size and ownership were used as mediators. The scatter plot did not demonstrate the problem of homoscedasticity because there was no established pattern of data.

It was also important to ensure that the error terms are independent in order to use the hierarchical multiple regression analysis. The Durbin Watson was used to assess independence on

the observations. The Durbin Watson ranges between 0 and 4 and when it is closer to 2 indicates that the error terms are independent. Hence, in all models the Durbin Watson coefficients were closer to two (2). The multicollinearity tests were also conducted and indicated that there was no problem of multicollinearity in all models. The value inflated factor in all models were less than 10 while the tolerance value in all models were greater than 0.1. The testing of hypotheses is presented on the following sections.

### **Company's structure and the Choice of Accounting Methods for DD and A**

The findings revealed that Company's structure had insignificant influence on the choice of the straight line (i.e.  $\beta=275$  and sig level=0.191). It was further revealed that company's structure significantly and positively influenced the choice of the reducing balance method (i.e.  $\beta = 0.470$  and sig. level =0.013). In the case of the Unit of Production Method, the Company's structure was found to have insignificant influence. With this fact,  $H_{1a}$  and  $H_{1c}$  were rejected and  $H_{1b}$  was accepted.

### **Firm Age and Choice of Accounting Methods for DD and A**

Under this case, there were three (3) sub-hypotheses coded as  $H_{2a}$ ,  $H_{2b}$  and  $H_{2c}$ .  $H_{2a}$  states that firm age influences the choice of straight-line method while  $H_{2b}$  states that firm age influences the choice of the unit of production method. The findings revealed that firm age significantly influenced the choice of the straight-line method despite the fact that it was relatively weak at the significance level of 0.059 i.e.  $< 0.1$ . Likewise, firm age was found to have significant positive influence on the choice of the reducing balance method with the regression weight ( $\beta$ ) of 0.053, significant at 0.001. The findings also revealed that firm age did not have significant influence on the choice of the unit of production method. The respective regression weight was 0.009 which is insignificant at 0.385.

Hence, firm age was to found to have an influence on the choice of straight-line method and reducing balance method. However, the influence is relatively strong on the choice of reducing balance method compared to the choice of the straight-line method. The significance level on the influence of firm age on the choice of reducing balance method was 0.001 while on the choice of straight-line method was relatively weak at 0.06. Generally,  $H_{2a}$  and  $H_{2b}$  were accepted while  $H_{2c}$  was rejected.

### **Disclosure Requirements and the Choice of Accounting Methods for DD and A**

In this case, there were three (3) sub-hypotheses coded as  $H_{3a}$ ,  $H_{3b}$  and  $H_{3b}$  and  $H_{3c}$ .  $H_{3a}$  states that disclosure requirements influence the choice of the straight-line method while  $H_{3b}$  argues that disclosure requirements influence the choice of the reducing balance method.  $H_{3c}$  states that disclosure requirements influence the choice of the reducing balance method. The inferential results revealed that disclosure requirements had significant positive influence on the choice of the straight-line method ( $\beta = 0.662$ , sig level =0.001). The inferential results further revealed that disclosure requirements had relatively higher influence on the choice of straight-line method and reducing balance method with a beta ( $\beta$ ) value of 0.662 and 0.666 respectively. The  $\beta$  value on the choice of the Unit of production was 0.321. Generally, all sub-hypotheses i.e.  $H_{3a}$ ,  $H_{3b}$  and  $H_{3c}$  were accepted.

### **Mediating Effect of Capital Market Requirements**



The study also examined the mediating effect of capital market requirements. There were three (3) sub-hypotheses coded as H<sub>4a</sub>, H<sub>4b</sub> and H<sub>4c</sub>. H<sub>4a</sub> states that capital market requirements mediate the influence of company structure on the choice of accounting method. H<sub>4b</sub> states that capital market requirements mediate the influence of firm age on the choice of accounting method. Furthermore, H<sub>4c</sub> states that capital market requirements mediate the influence of disclosure requirements on the choice of accounting method.

The inferential results revealed that capital market requirements mediate the influence of disclosure requirements on the choice of straight-line method. The R<sup>2</sup>- adjusted changed from 0.202 to 0.455 and the  $\beta$ -Value of disclosure requirement was 0.088, significant at 0.20 and the  $\beta$ -value of capital market requirement was 0.716, significant at 0.001.

The results also revealed that capital market requirements mediate the influence of company's structure and firm age on the choice of the reducing balance method. The R<sup>2</sup>-adjusted changed from 0.353 to 0.717 when the mediating variable was introduced in the model. In addition, when the mediating variable was introduced, the  $\beta$ -value of company's structure and firm age was 0.243 (sig. level = 0.019) and 0.030 (sig. level=0.007) respectively. The  $\beta$ -value of the mediating variable, capital market requirements was 0.088, significant at 0.020 and the  $\beta$  -value of capital market requirement was 0.716, significant at 0.001.

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**Table 1: Regression results**

Details	Straight Line Method				Reducing Balance Method				Unit of Production (UoP)			
	Model 1		Model 2		Model 1		Model 2		Model 1		Model 2	
	B	Sig	B	Sig	B	Sig	B	Sig	B	Sig	B	Sig
Constant	5.011	.001	4.302	.001	.673	.001	.011	.012	.212	.041	.648	.005
Firm Age	.042	.059	.018	.337	.053	.001	.030	.007	.009	.385	.006	.439
Company's structure	-.275	.191	-.126	.470	.386	.013	.243	.019	.123	.222	.031	.051
Disclosure requirements	.662	.001	.088	.020	.666	.001	.112	.151	.321	.001	.032	.039
Capital Market requirements			.716	.001			.691	.001			.441	.001
R <sup>2</sup> -Adjusted	.202		.455		.353		.717		.182		.615	
F-Value	10.947		54.380		22.418		148.862		9.760		130.564	
P-value (Sig.)	.001		.001		.001		.001		.001		.001	
F Change (Sig.)	.001		.001		.001		.001		.001		.001	
Durbin Watson	2.156				1.597				1.564			

## **Discussion of Findings**

The findings of this study are in line with other studies (such as Fields, et al 2001; Zinkenviciene and Rudzionienė, 2005; Milonakis, 2009; Watson, et al. 2002). For instance, Fields, *et al* (2001) as well as Zinkevičienė and Rudzionienė (2005) argue that organizational characteristics influence the choice of accounting method for DD & A. This is in line with the findings of this study where it was found that firm age as an organizational characteristic significantly predict the choice of straight line despite the fact it was relatively weak and reducing balance method. Furthermore, company's structure was found to significantly influence the choice of the reducing balance method.

In addition, studies (such as Fine and Milonakis, 2009; Zinkenviciene and Vaisnoraitė, 2014) agree that the environmental factors influence the choice of accounting method for DD & A. The results of the aforesaid studies are in line with the results of this study which revealed that disclosure requirements significantly influence the choice of straight-line, reducing balance and unit of production methods. The results are also supported by different authors (such as Bertomeu and Magee, 2011; Williams and Meyers, 2010; Watson, *et al.* 2002) which contend that regulations significantly predict the choice of accounting methods for DD&A. For instance, regulatory bodies (Adere, 2011), price regulation (Watson, *et al.*2002), regulation from financiers (Bertomeu and Magee, 2011) and awareness of regulation (William and Meyers, 2010) are considered as the regulatory factors that influence the choice of accounting methods.

Nevertheless, the aforementioned studies did not focus on the mediating influence of environmental factors on the choice of accounting methods for DD&A. It was further revealed that capital market requirements mediated the influence of company's structure on the choice of reducing balance method and the unit of production method. It also mediated the influence of firm age on reducing balance method. Furthermore, it was revealed that capital market requirements mediated the influence of disclosure requirements on the choice of straight-line method and unit of production method.

Moreover, the findings are in line with PAT because the findings revealed that the choice of accounting method for DD & A, among others, is influenced by the focus of managers towards maximizing their interests and company's performance. For instance, the choice of accounting methods for DD & A was found to be influenced by organisation characteristics which play an important role in determining company's performance. Furthermore, it was revealed that company structure had significant positive influence on choice of reducing balance method. This indicated that, depending on the circumstance, the managers' behaviour towards the choice of the mentioned accounting methods for DD and A is determined by the structure they have designed basing on their interests and company performance targets. Hence, the findings are in line with PAT because the theory attests that the choice of accounting methods is determined by the focus of managers towards maximizing their interests and company's performance.

The findings are also in line with DUT because it was found that the choice of accounting methods for DD & A is influenced by the usefulness of the accounting information to the specific organisational context in terms of the firm age and company's structure especially on the choice

of straight-line method and reducing balance method. Moreover, the findings were in line with the Contingency theory because disclosure requirements as an environmental factor were found to have an influence on the choice of straight-line method, reducing balance method and unit of production method. Moreover, capital market requirements were found to mediate the influence of organisational characteristics and disclosure requirements on the choice of accounting methods for DD and A as it has been earlier mentioned.

## **Conclusion and Implication**

The study examined the influence of organizational characteristics and environmental factors on the choice of accounting methods for DD & A. The environmental factors included capital market requirements and accounts disclosure requirements. The findings revealed that company's structure has positive significant influence on the choice of reducing balance method. In addition, firm age significantly and positively influences the choice of straight-line method despite the fact that it is relatively weak and reducing balance method. The study also concludes that positively and significantly influences the choice of straight-line method, reducing balance method and the Unit of Production. However, the disclosure requirements had relatively higher influence on the choice of straight-line method and reducing balance method. In addition, capital market requirements mediate the influence of disclosure requirements on the choice of straight-line method. Capital market requirements also mediate the influence of company's structure and firm age on the choice of reducing balance. The study also concludes that capital market requirements mediate the influence of company's structure and firm age on the choice of reducing balance method. Furthermore, capital market requirements mediate the influence of company's structure and disclosure requirements on the choice of the Unit of Production method.

This study has both theoretical and practical implications. In case of theoretical implications, the study contributes in understanding the factors influencing accounting choice in terms of depreciation and depletion. This is done by using PAT and contingency theory. For practical implication, the policy makers and managers may use the findings of this study evaluate the relationship between accounting policies and organizational characteristics. Specifically managers should consider and examine the influence of company's structure, firm age and disclosure requirements when deciding on the choice of reducing balance method. With regard to the choice of the unit of production method, managers have to consider the influence of both capital market Requirements Company's structure and disclosure requirements. Furthermore, managers should bear in minds the influence of firm age, disclosure requirements and capital market requirements. However, it is more important to recognise that organisational characteristics and environmental factors do not have the same influence. Generally, managers should strategically analyse and consider the disclosure requirements because they were found to have an influence on the choice of all accounting methods for DD and A discussed in this study.

Despite its contribution, this study has its own limitation such as using the quantitative research methods. The use of quantitative approach did not provide an opportunity for an in-depth analysis of each cases to understand how the accounting policies are being formulated and selected. As such as qualitative study can be conducted in order to capture in-depth information on the relationship between organization characteristics, environmental factors and the choice of accounting methods for DD&A. The qualitative study may focus on the main two issues. Firstly,

it will focus on how the accounting methods for DD & A are used in some oil and gas companies. Secondly, it will focus on why the selected factors had different influence on the choice of accounting methods for DD and A.

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