

ELUSIVE FACTORS INFLUENCING SHARE VALUES: AN EMPIRICAL ASSESSMENT

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ABSTRACT

The paper examined the elusive factors influencing share value in the Nigeria oil and gas industry with the aim of determining their effect and the extent to which they influenced share value. A simple random technique was used to select three of the six listed oil and gas companies on the Nigeria stock exchange. A stratified random technique was then used to select respondent in the functional department across the selected oil and gas industry. Both secondary and primary data were involved in the study. Stepwise regression analysis was used to capture the relative contribution and effect of the factors on share value. The results exhibit a strong relationship between the oil and gas industry market value and the elusive factors -Innovation, human capital, and supply chain management. Innovation was indentified to be the major driving force adding value to the Nigerian oil and gas industry, followed by human capital development and supply chain management.

Keywords: *Innovation, Human capital development, Supply chain management, Nigeria.*

INTRODUCTION

Maximizing shareholders' wealth through the creation of value to a company's market share price is currently recognized by academics and practitioners as the performance indicators of any profit oriented organization. Omoluabi (2006) opined that "value is at the core of whatever progress, in whatever sector of life and living used in measuring the worth of an investment". Pareek (2003) identified shareholder's value as total benefit to shareholders from investing in a company. Creating values for investors was further affirmed as delivering consistently high returns on capital (Frank, 2006). This means that the concept of value creation essentially examines the value attributed to the shareholders of a company. Many corporate executives are concerned with the role that should be taken by business activities to add value for the customers and shareholder. In his comments, on the slide in Oando's share price, Tinubu (2010) stressed that "we have put adequate measures to accelerate the development of higher margin businesses and product line and continue to contain our operating expenses while growing our top line earnings in order to improve returns". He further assured that all hands will be on deck to improve their performances. This is in consonance with the suggestion of Emmanuel et al., (1990) that "in order to measure organizational performance, it is necessary to discover what the organization is attempting to achieve in the first instance".

Moreover, it is common these days to be confronted with questions by would – be first time investor on which sectors or stocks are advisable to put money on. This suggests that the main source of concern to potential investors and shareholders is how to identify organizations that are performance driven with the sole aim of sustaining shareholder wealth. Pareek (2003) observed that, investors now look to capital appreciation as the prime motivation for investing in a company. In his own view, Rappaport (1986) concluded that identification of effective value driver was crucial for investment decision.

Oakland (1989) argues that to be useful, performance indicators must be measurable, relevant and important to the organization performance. He stressed that such information must be meaningful to anyone seeking to evaluate the organization's performance. This infers that performance indicators are crucial measurement that guides shareholders and investors in their quest for investment. This paper focused on elusive factors that influences share value with a view to determining their effect and the extent to which they influenced share value. This is premise on the fact that they may not have their root in the accounting details that seeks to give details of the state of health of companies, but shareholders can still make reasonable decision at the glimpse of these factors.

REVIEW OF RELATED LITERATURE

Maximizing shareholder value has emerged the over arching goal for corporate management. Empirical evidence suggests that this trend will continue for the foreseeable future (Pareek, 2003). For instance, the U.S system of corporate governance presumes that top executives' primary responsibility is to maximize shareholder value (Jensen and Meckling, 1976; Shleifer and Vishny, 1997), which in turn often requires investment and commitment to long term risky projects (Ghemawat, 1998).

Research in the area of shareholder value has followed several avenues. Early work by Burkard (1999) was concerned with the pressure on executive to develop new and better solutions to running their business while they lack the tool to do so. Delaney and Wamuziri (2004) evaluated the role of merger and acquisition on share value. Additional work by Watson (2006) deals with Human Capital as a lead indicator of shareholder value. Related work by Bearing (2003) stressed the creation of shareholder value through Customer Relationship Management (CRM).

These general view reflecting share values are similar to the work of Daum (2002) which concurs that, creating value through Intangible Asset Management must pay greater attention to non material production factors. This implies that companies must respond to various market forces that demand sound internally generated growth through new product or services, improved customer relations, new market penetration, efficient supply chain management and openness of the company to its stakeholders. Baruch (2002) opined that, successful companies must understand how these intangibles contribute to shareholder value. Affirming this view, Jonathan and Pamela (2002) observed that, non financial performance accounts for up to 35 percent institutional investors' portfolio allocation decision. Further researches in the U.S and Europe demonstrate that between 50 percent and 90 percent of a company's market value can be explained by intangibles (Thomas, 1997). These suggest that attention received by intangible assets for investment decision is on the increase. Nevertheless, maximizing shareholder value was found to be the primary target of profit oriented organizations. In this paper, attempt was made to assess the elusive factors that influences share values. This is based on the fact that potential investors or buyer consider them when evaluating a company yet they do not appear on any balance sheet.

The link between Business Fundamentals and performance measurement

To succeed in today's global market place; companies must respond to the various market forces that demand sound ethical behavior, greater transparency and good corporate governance. The more successful companies must also understand how these policies contribute to shareholder value. The times for short cut in improving shareholder value are gone (Daum, 2002). As business fundamentals and credible accounting become the new touch stone by which investors are judging corporate quality, and executives. Financial officers must pay more attention to and have to understand the performance of their business (Carlsson, 2001). In support of this view Larcker (2002) noted that, understanding business fundamentals offers a close link to long-term organizational strategies. Ittner (2002) observed that, financial results tell more of economic result of past activities, it does not tell much more of how successful a company will be in the near future where constant change will be the norm.

These mean that the sustainability of a company's result and of the company business in general is at risk if investors, analysts and managers focus too much on financial result. The actual scandal about companies that reported inflated profit such as overstatement of Cadbury Nigeria account is a direct consequence of this development and the so called "earnings game".

Daum (2002) stressed that, in today's knowledge economy value is being created not anymore through capital investment and industrial chain but through activities that involves the creation of knowledge and relationship assets such as through product development, customer relationship building and constant business process optimization yet none of these values and nothing about their actual status is reflected in financial accounts. Previous study on one of the effects of investments in human capital (cited in Gemi, 2004), found that a well managed workforce can add up to 30% to a company's market value. Similar study by Johnson Control Inc the world largest manufacturer of automotive interior and batteries (cited in Gemi, 2004) confirmed that it recorded 93% growth rate through battery recycling which is higher than any other commodity.

These aligns with the argument of Baruch (2001) that, investment in intangible asset particularly those that enable enterprise to innovate, brings in returns that are significantly higher than cost of capital and returns on fixed asset investment. This is no doubt account for the report of OECD (2001) where it was noted that, investment in capital and knowledge production such as research and development were continuously increasing over the last decades and matched those in fixed assets in 1999.

A survey of U.S Financial Service Company (cited in Gemi, 2004) revealed that most financial services were not satisfied with their measurement system. They believed there was so much emphasis on financial measure such as earning and little emphasis on drivers of value such as customers and employee satisfaction. Larcker (2000) further affirmed that financial evaluation systems generally focus on annual or short term performance against accounting requirement yardstick. They do not deal with progress relative to customer requirement, competitors nor non-financial objective that maybe important in achieving profitability, competitive strength and longer term strategic goals. Daum (2002) concluded that simply studying the profit and loss statement or balance sheet will not reveal the factors behind sustained financial success that have become decisive in every industry in our modern economy: intangible asset in the form of human capital, customer relationship management supply chain management, and corporate culture is the order of the day.

What we need therefore is a new approach to shareholder value management that will supplement accounting measure with non financial data about strategic performance and implementation of strategic plan with major consequence for corporate governance and corporate performance management.

METHODOLOGY

The sample was selected randomly from a total population of six listed oil and gas companies on the Nigeria stock exchange. Stratified random sample was used to select the functional department (Marketing, Gas, Supply and Trading and Public Relations Unit) of the selected (Oando, Conoil and Mrs Oil) oil companies. The approach help improve the precision of the statistical measures of the population attributes (Fabayo, 2009). The secondary data was collected through the Nigerian Stock Exchange Daily official list. In selecting the respondent, random sampling technique was adopted with each functional unit proportional to the size of its staff. Stepwise regression analysis was used to capture the relative contribution of the factors on share value.

OPERATIONALISATION OF VARIABLES

Stock price is the dependent variable perceived to be the worth or value attributed to the shareholder. It was measured as the Naira value of 360 days active trading period. The independent variables (Innovations, Transparency, Customer relations, Human Capital and Supply chain) are the perceived elusive factors that influences share value.

Innovation relates to firm ability to gain some degree of market power and acquire shares in a niche market through patent or franchise. Innovation was measured as a binary variable reflecting the presence (1) or absence (0) of Innovation. The wide spread use of patent and patent citation as a measurement of innovation performance across firms justify its validity (Pakes, 1985; Moorman and Slotegraaf, 1999; Furman et al., 2002; Ziedones, 2004).

Transparency is an indicator of timeliness of communication and openness in decision making process, frequency of meetings with shareholders forum and the practice of some chief executive officer (CEO /MD) holding the position of the board chairman. Following (Donaldson and Davis1991; Cadbury, 1992; Higgs, 2003) the variable CEO Duality and timely release of companies report will be considered. It is perceived that such gives the CEO/MD too much power vis a vis other board members and consequently may not behave in the interest of the shareholders. Transparency was calibrated in to binary variable to satisfy the assumption of parametric test (Aluko, 1999). Timely release of report was measured in months (quarterly) in line with the Securities and Exchange Commission guidelines. This is consistent with the empirical works of Tuch and O'sullivan (2007).

The variable, customer relationship, was viewed as the result of long periods of customer satisfaction observed in customer's loyalty. Customer relationship was measured by total sales activities (volume) heightened by customer demand. This is consistent with the prior empirical work (Jensen and Murphy, 1990).

The measure of human capital was employee performance that effectively implements the firm's strategy. This was based on the fact that human capital deliverable is only valuable if it serves to effectively implement the company's strategy. It is an acceptable indicator of behavior that influences key strategy drivers in the organization (Becker et al, 2002; Huselid et al 1997; Aurther 1994, Kaplan and Norton, 2000): This variable

measured employee attitude to strategy implementation that improve customer satisfaction which in turn improve revenue growth.

Supply chain management was measured as the company's ability to build integrate and reconfigure its upstream supply chain, internal operations and downstream supply chain to address rapidly changing market needs. Respondent were asked whether the company have basically develop a new supply chain process, reconfigure the existing supply chain process or partially improved the supply chain process.

RESULT AND DISCUSSION

From the findings, it was revealed that innovation, human capital and supply chain management were the variable selected on the basis of highest partial correlation to meet the entry probability requirement of less or equal to 0.05 (≤ 0.05) but do not meet the removal probability requirement of greater or equals to 0.10 (≥ 0.10). The result showed the relationship between the dependent variable (stock market value) and each selected elusive factors (innovation, human capital, and supply chain management). The study revealed that three variables; innovation, human capital and supply chain management had a strong positive correlation of 0.780 with the industry market value. These mean that the three variables together had a strong relationship with the oil industry market value. The relationship between stock market value and the independent variable innovation and human capital with the effect of supply chain management partial out was also stated as 0.752, thus indicating a gradual decline in the relationship by 0.028 (0.780-0.752); which means despite the decline in the relationship as a result of partialling out the effect of supply chain management there exist still a strong positive relationship between stock market price and the independent variable innovation and human capital. In addition, the result showed that innovation had a 0.712 positive relationship with the company's stock price while partialling out the effect of human capital and supply chain management. A reduction in the relationship by 0.04 (0.752-0.712) can again be deduced while maintaining the positive relationship. The finding above shows that innovation had greater relationship with industry market value, followed by human capital and supply chain management.

The result also showed the contribution of elusive factors on share market value. Innovation, human capital and supply chain management had an R^2 of 0.608 on the industry market value which implies that innovation, human capital and supply chain management jointly accounted for 60.8% of the variation in industry market value. The significance of the R^2 was confirmed with an F value of 187.9 which was statistically significant at of 0.05 level significance; a good indication of the models ability to measure the industry market value. These result confirmed the important roles innovation, human capital and supply chain management played in adding value to the oil and gas industry. This findings conforms with the prior research work of Baruch (2001) where investment in intangible asset particularly those that enable the enterprise to innovate were noted to yield significant returns than fixed asset investment. The result further revealed a R^2 value 0.565 attributed to innovation and human capital with the contribution of supply chain management partial out. This implies that innovation and human capital jointly accounted for 56.5% contribution of industry market value. Again the significance of the R^2 was tested with the ANOVA with an F-value of 236.6, which was statistically significant at 0.05 level of significance. This again confirms the contribution of innovation and human capital effort at improving the industry market value. The additional contribution of human capital development on the existing effect of innovation was consistent with the findings in previous study (cited in Gemi, 2004) that a well managed work force can add up to 30% to a company's market value.

In addition to that, the result showed the contribution of innovation with the effect of human capital and supply chain management partial out. The findings indicates that innovation has a R^2 value of 0.507 on Oil industry stock value, which means that innovation accounted for 50.7% of the industry stock market value. The R^2 was tested at 375.3 F- value which was statistically significant at 0.05 level of significant, an indication of what innovation has done in explaining the variation in the market value of the industry. These results were coherent with the prior academic literature of Schumpeter (1934) where the importance of innovation was emphasized as the central determinant of economic growth and technological change.

The stepwise regression model expressing a step by step effect of independent variables was expressed as:

$$Y = \alpha + b_1x_1 + b_2x_2 + b_3x_3 \dots \mu$$

Where Y = Industry market value

α = Constant

$b_1 - b_3$ = Regression coefficient attached to variable x_1, x_2, x_3

$x_1 - x_3$ = Independent variable that accounted for the variation of Oil and Gas

Industry stock market value.

x_1 = Innovation

x_2 = Human Capital

x_3 = Supply Chain Management

μ = error term (unexplained variance)

Model ... (1) Industry market value = 62.482 +5.615 innovation

Model one expresses the average change in Industry market value given the effect of the innovative effort of the oil industry. This means that given a unit positive effect of Industry innovative effort, the Industry market value will increase by 5.615 units.

Model... (2) Industry market value =65.395 +3.564 innovation+0.502 human capital.

Model two expresses an increase in Industry market value by 0.502units with a constant (α) value of 65.395, as a result of a 1 unit increase in human capital development effort of the Industry while holding the effect of innovation constant.

Model... (3) Industry market value = 57.418 +2.864innovation+ 1.421 human capital
+ 0.896 supply chain management.

The model expresses the contribution of supply chain management on the existing effect of other variables on the stock market price. The regression indicates that, given a unit change in the Industry existing supply chain network with a constant value of 57.418 while holding the effect of innovation and human capital, the Industry market value will increase by 0.296 units.

In an attempt to determine the elusive factor that contributed most to the variation in the Industry market value, the individual effect of the three independent variable were considered using the R^2 change (R^2_c) which is the different between the R^2 with i th independent variable and the R^2 without the i th variable where the i th is the variable that enter the equation next. In this study, the R^2 for innovation is 0.507, that for human capital is 0.058(0.565-0.507) and that for supply chain management is 0.043(0.608-0.565). Innovation was found to have accounted for the highest variation followed by human capital and supply chain management. To further affirm the contribution of innovation to the industry market value the standardized partial regression coefficient which seek to express the variable in the same unit when all three independent variable were evaluated was also used as basis for comparison. The result indicates that given a 1 standard deviation improvement in the innovative effort of the industry there will be a 0.502 standard deviation change in the industry market value and a 0.904 standard deviation change in the industry market value for a 1 standard deviation change in human capital development. This implies that innovation has contributed most to the in the industry market value thus justifying the findings of copper et.al (1998) that effective innovation is imperative for the survival, growth and profitability of most enterprises.

CONCLUSION

Following the findings from this study, the highlighted conclusions were made:

There was a strong relationship between the oil and gas industry market value and the selected elusive factors (Innovation, human capital, and supply chain management). The three variables; innovation, human capital and supply chain management had a strong positive correlation of 0.780 with the industry market value. These mean that the three variables together had a strong relationship with the oil industry market value. Three elusive factors (Innovation, human capital development and supply chain management) accounted for 60.8% variation in the market value Nigeria oil and gas industry. Innovation was discovered to be the major driving force adding value to the Nigerian oil and gas industry, followed by human capital and supply chain management.

RECOMMENDATION

The outcome of the study suggested a renew focus on elusive factors such as innovation and human capital development and supply chain management in an attempt to grow profit, sustain company's share value and create value for investment. Managers and business owners should give proper attention to manpower

requirement of their organization. It is imperative for management to constantly train her workforce and focus on maximizing the workforce skills required to perform task of various techniques capable of transforming the organization positively. Finally, investors are advised to among other things considered values such as organization innovative effort, human capital development and supply chain management in their quest for investment.

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APPENDIX

Table 1.1 Entry Requirement of The Elusive Factors

| Model | Variables Entered | Variables Removed | Method |
|-------|-------------------------|--|--|
| 1 | Innovation | Transparency Customer Relationship Management | Stepwise (criteria: probability -of-F - to - enter \leq .050. probability -of-F - to- remove \geq .10 |
| 2 | Human Capital | | stepwise (criteria: probability -of-F - to - enter \leq .050. probability -of-F - to- remove \geq .100 |
| 3 | Supply chain Management | | stepwise (criteria: probability -of-F - to - enter \leq .050. probability -of-F - to- remove \geq .100 |

- a All requested variables entered
b Dependent variable: Market value

| Model | R | R Square | Adjusted R Square |
|-------|-------|----------|-------------------|
| 1 | 0.712 | 0.507 | 0.506 |
| 2 | 0.752 | 0.565 | 0.563 |
| 3 | .780 | 0.608 | 0.605 |

- a. Predictors: (constant) INNOVATION
b. Predictors: (constant) INNOVATION, HUMAN CAPITAL
c. Predictors: (constant) INNOVATION, HUMAN CAPITAL, SUPPLY CHAIN MANAGEMENT

Table 1.2 Stepwise Regression Result of the Elusive Factors

| Model | Unstandardized coefficients | | Standardized coefficients | | sig. |
|---------------|--------------------------------|-----------|------------------------------|--------|------|
| | B | Std.Error | Beta | t | |
| 1 (constant) | 62.482 | 1.285 | | 48.620 | .000 |
| INNOVATION | 5.615 | .317 | .712 | 17.692 | .000 |
| 2 (constant) | 65.395 | 1.726 | | 37.881 | .000 |
| INNOVATION | 3.564 | .421 | .531 | 8.453 | .001 |
| HUMAN CAPITAL | .502 | .124 | .374 | 3.551 | .003 |
| 3 (constant) | 57.418 | 2.584 | | 22.220 | .000 |
| INNOVATION | 2.864 | .584 | .502 | 4.813 | .000 |
| HUMAN CAPITAL | 1.421 | .398 | .904 | 3.058 | .002 |
| SCM | .896 | .240 | .608 | 3.980 | .002 |

Dependent Variable: stock market value

Table 1.3 Stepwise Analysis of Variance Result of the Elusive Factors

| Sum of | | MODEL | Squares | df | Mean Square | F | sig. |
|--------|------------|-----------|---------|-----------|-------------|------|------|
| 1 | Regression | 12043.241 | 1 | 12043.241 | 375.330 | .000 | |
| | Residual | 11711.672 | 365 | 32.086 | | | |
| | Total | 23754.913 | 366 | | | | |
| 2 | Regression | 13428.832 | 2 | 6714.419 | 236.600 | .000 | |
| | Residual | 10326.081 | 364 | 28.368 | | | |
| | Total | 23754.913 | 366 | | | | |
| 3 | Regression | 14449.852 | 3 | 4816.617 | 187.900 | .010 | |
| | Residual | 9305.061 | 363 | 25.633 | | | |
| | Total | 23754.913 | 366 | | | | |

Predictors: (constant) INNOVATION

Predictors: (constant) INNOVATION, HUMANCAPITAL

Predictors: (constant) INNOVATION, HUMANCAPITAL

Dependent Variable: DAILY STOCK MARKET PRICE, SCM

SOURCE: Data analysis, 2011