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# Predictive Model to Evaluate Accommodation of Conflict Management Strategies and Board Performance of Oil and Gas Companies in Port Harcourt

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ABSTRACT

This paper evaluates accommodation of conflict management strategies and board performances in oil and gas sector. The study details the reflection of effectiveness, efficiency and productivity as the answer to thorough efficiency in accommodation of conflict management in oil and gas sector, these parameters in the system express their efficacy on conflict management in these multinationals, this implies that for thorough efficiency, these variables must work simultaneously for effective and efficient in structural organization that can be a leading multinational sector in oil and gas environment. The study observed Linearized result from graphical representation explaining predominant lower efficiency and little higher efficiency in accommodation of conflict management in oil and gas companies. These experiences from the study monitor the system from generated simulation values that describe the growth rates in exponential phase of accommodation conflict strategic management. Despite exponential phase the results experienced lower parameters, when comparing on its variations showing its poor efficiency as observed in the study. Few periods observed higher effective accommodation on conflict strategic management. The developed model stimulation values were subjected to validation and both parameters generated favourable fits correlation, the study expressed the deficiency on accommodation of conflict management strategy thus developed models that can monitor the fluctuation and progressive state of accommodation on conflict management strategy, it defines the reflection of other parameters that express the behaviour of the system in terms of conceptual approach to monitor these type of strategic management in oil and gas companies.

## 1. Introduction

Conflict has been with us since the inception of human development and to a greater extent informed our

thinking as individuals. This tends to show Conflict is an inevitable concept within the human society. Variations of views may be held, this implies that views may be experienced conflict as it be a negative situation, this must

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always be avoided at any cost. There are others that may experience conflict in a phenomenon. It will definitely require management. More so in other circumstances other may consider conflict as an exciting opportunity for personal growth, and others try to apply his or her best advantage. This notion implies Whoever that fall on this range of viewpoint as it concerns conflict would expect to be in a continual state of conflict as for the fundamental for employment. Conflict in organizations may neither be ignored nor feared. Indeed, it should be creative and destructive manifestations. Conflict-free company has never stereotype, negative attitudes and the frustrations of perceived conflicting need will always be present wherever men are forced to live and work together. However, conflict in an organization is a daily occurrence <sup>[1]</sup>.

<sup>[2]</sup>stresses that conflict is inevitable within the human society, and that the organization since it's comprises of individuals from diverse cultures tend to have a huge level of conflict attributes, because individual needs and preferences to a greater extend is the major reasons for conflict within and outside the organization. When two or more social entities (that is, individuals, groups, organizations and or nations) come in contact with one another in attaining their objectives, their relationship may become inconsistent when two or more of them desire a similar resources that is in short supply; when they have partially exclusive behavioural preference regarding their joint action; or when they have different of conflict would be a process of social interaction involving a struggle over claims to resources, power and status, beliefs and other preferences and desires. The aims of the parties in conflict may extend from simply attempting to gain acceptance of a preference, or securing a resource advantage, to the extremes of injuring or eliminating opponents <sup>[3]</sup>.

Uncertainty and disagreement have been two significant drivers for conflict anywhere and especially in organizations where the board members are idle. In other words, an organization with an ineffective board is a veritable ground for conflict. An organization's management under his circumstance manipulates events in its favour and runs corporate supervision as personal or individual fortune. In non-performing or redundant boards, and this is noteworthy, board activities are minimal and are reduced to, in the main, ratification (or rubber-stamp) of managerial decisions <sup>[4]</sup>. Instructively, many failed and failing Nigeria business have boards that are damaged by conflicts – in fighting and or disagreements, resulting in the abnormally of all corporate authority being vested in one individual – the managing director and chief executive officer, who functions without supervision. In these companies the board of directors function at the managing

director who also controls and determines all corporate, administration, finance, projects, recruitment, selection decisions etc. These conflicts are the outcomes of ignored grievances, disputes and complaints or poorly managed conflicts between board members. It is a fact that conflicts when not effectively managed have the potential of spiraling with disastrous consequences.

In general, unresolved conflict among the board of directors is considered to have a negative impact on their performance <sup>[6]</sup>. It decreases satisfaction of the board members; it decreases the board productivity; hinders the exchange of information needed for effective decision-making <sup>[5]</sup>. When exploring the board of directors as a workgroup, it is important to identify each of the team members and how they interact; each member has his or her contribution and conflicts among board members could arise in different forms <sup>[5]</sup>. The effectiveness of a group is only ascertained when there is harmony amongst group members.

### **1.1 Accommodation Conflict Management Strategy**

<sup>[1]</sup>This is one of sacrifice, selflessness and low assertiveness. You are willing to give up just about everything in order to preserve the relationship with the other party. It is certainly reasonable to use this strategy when the issue at hand is something of little importance to you. It fore goes your concern in order to satisfy the concern of others. This strategy is low assertiveness and high cooperativeness; the goal is to yield. The accommodating style is appropriate to use in situations when you want to show that you are reasonable, develop performance, create good will, keep peace, retreat, or for issues of low importance. Accommodating skills include the ability to sacrifice, the ability to be selfless, the ability to obey orders, and the ability to yield.

Over use of the accommodating strategy results in ideas getting little attention, restricted influence, loss of contribution, and anarchy. People who overuse the accommodating style exhibit a lack of desire to change and usually demonstrate anxiety over future uncertainties. One of their main desires may be to keep everything the same. When accommodating is overused certain behaviors emerge. Some of these emergent behaviors include giving up personal space, making "me" or other victim statements, being overly helpful and then holding a grudge, and speaking in an extremely quiet almost unintelligible voice.

The accommodating strategy essentially entails giving the opposing side what it wants. The use of accommodation often occurs when one of the parties wishes to keep the peace or perceives the issue as minor. For example, a

business that requires formal dress may institute a "casual Friday" policy as a low-stakes means of keeping the peace with the rank and file. Employees who use accommodation as a primary conflict management strategy, however, may keep track and develop resentment.

Accommodators are people who give in to maintain the illusion of harmony<sup>[5]</sup>.<sup>[3,4]</sup> It is noted that accommodation scores high on cooperativeness.<sup>[1, 2]</sup> It is in of views accommodation as a destructive strategy, because it often leads to a build-up of negative emotions. An accommodating board is one that cooperates to a high degree. This may be at the boards' expense and actually works against its goals, objectives, and desired outcomes. This approach is effective when the other board members are the expert or has better solutions. It is a lose – win approach. There are situations which accommodation may be appropriate.

### 1.2 Board Performance

Literature on board performance has assumed multiple dimensions<sup>[2, 4, 5]</sup>. In the light if the above,<sup>[2, 3]</sup> opined that, "the wellbeing of an organization is greatly determined by its board of directors. The board of directors of a company is those individuals saddled with the responsibility of decision making within the organization-to a greater extent the success or growth of an organization is a factor of the decisions of the boards of directors. Company directors duly appointed to manage the business activities of the company. Management and chief executive officers of the organization are responsible for the day-to-day operations whereas board of directors are responsible for monitoring the management and making sure the act in tandem with the vision and mission of the organization so as to maximize the profit of the organization and for the interest of the shareholders. It is imperative however that every organization has a board of directors because they oversee the activities of the organization and ensure that managers and other workers within the organization adhere to state objectives and laws of the organization at all time.

### 1.3 Accommodation Conflict Management Strategy and Board Performance

Accommodative is unassertive and cooperative. The accommodating strategy essentially entails a situation where a party in a conflicting situation chooses not to continue in a particular issue-giving the opposing side what it wants. The use of accommodation often occurs when one of the parties wishes to keep the peace or perceives the issue as minor. Employees who use accommodation as a primary conflict management strategy, however, may keep track and develop resentment.<sup>[2]</sup> did an empirical study

between accommodation and organizational performance and a positive relationship was found, which was further reinforced by the findings of<sup>[2]</sup> on compromising strategy the compromising strategy typically calls for both sides of a conflict to give up elements of their position in order to establish an acceptable, if not agreeable, solution. This strategy prevails most often in conflicts where the parties hold approximately equivalent power. Business owners frequently employ compromise during contract negotiations with other businesses when each party stands to lose something valuable, such as a customer or necessary service.

### 1.4 Effectiveness

Effectiveness is the degree to which objectives are achieved and the extent to which targeted problems are solved. In contrast to efficiency, effectiveness is determined without reference to costs and whereas efficiency means doing the thing right, and effectiveness means doing the right thing. Several theoretical studies have presented definitions of operational effectiveness ranging from its theoretical independence<sup>[4]</sup> to attaching it as a component of performance<sup>[3]</sup>. An interesting feature of this scholarly effort is the consensus that evolved from the meta-analytic work of<sup>[2]</sup> that have adequately and empirically domiciled operational effectiveness within the performance construct and using it as a measure.

Scholarly efforts have been used in analyzing and measuring performance of work organizations<sup>[2, 3, 4]</sup>. Some of the measures so far have been seen in relation to the functional aspects of work while some are perceptually drawn based on disciplinary orientation<sup>[1, 2, 3]</sup>. Like the case of the accounting function which relies on assures like, gross profit, return of investment profitability and the marketing function relies on market share and sales growth as an indicator to measure performance. In the case of the production function which is widespread across every function, operational efficiency is greatly applied<sup>[3,5]</sup>.

### 1.5 Productivity

Productivity can be defined as quality of being productive. The efficiency of fruitful effort, particularly in industry, there are measured in terms of its rate of output per unit of input level of performance, these concepts applied in a business over a specified period of time, it also expresses terms of overall profits including losses during that time. Evaluating such profits of a business allows decision-makers to judge the results of business strategies and activities in objective monetary terms. Also, profitability measured the results of a firm's policies including

operations these are observed in monetary firms, it is reflected in the firm's return on investment, return on assets, value added etc.

Any of many different mathematical measures to evaluate how well a company is using its resources to make a profit. It is important to note that, no one measure of financial performance should be taken on its own. Rather, a thorough assessment of a company's performance should take into account many different measures <sup>[1,6]</sup>.

## 2. Theoretical Background

$$\frac{d c_d}{dp} + u(t) c_d = k(t) c_d^n \tag{1.0}$$

Dividing equation (1.0) all through by  $c_d^n$  we have

$$c_d^{-n} \frac{d c_d}{dt} + u(t) c_d^{1-n} = k(t) \tag{1.1}$$

Let

$$P = c_d^{1-n} \tag{1.2}$$

$$\frac{dp}{dt} = (1-n) c_d^{-n} \frac{d c_d}{dx}$$

$$c_d^{-n} \frac{d c_d}{dx} = \frac{1}{1-n} \frac{dp}{dx} \tag{1.3}$$

Substituting equation (1.2) and (1.3) into equation (1.1) we have that

$$\frac{1}{1-n} \frac{dp}{dt} + u(t) p = k(t) \tag{1.4}$$

Multiplied equation (1.4) all through by (1-n)

$$\frac{dp}{dt} + u(t)(1-n) p = k(t)(1-n) \tag{1.5}$$

Equation (1.5) is linear in p. we applied the integrating factor method as follows:

$$I.F = e^{\int u(t) dt} \tag{1.6}$$

Where

$$p(t) = u(t)(1-n) \tag{1.7}$$

Substituting equation (1.7) into (1.6) we have

$$I.F = e^{\int u(t)(1-n) dt}$$

$$= e^{u(t)(1-n)t}$$

$$= e^{u(t)(1-n)t}$$

$$I.F = e^{u(t)(1-n)t} \tag{1.8}$$

Multiplied all through equation (1.5) by equation (1.8) we have

$$e^{u(t)(1-n)t} \frac{dp}{dt} + u(t)(1-n) e^{u(t)(1-n)t} p = k(t)(1-n) e^{u(t)(1-n)t}$$

$$\frac{d}{dt} (e^{u(t)(1-n)t} p) = k(t)(1-n) e^{u(t)(1-n)t}$$

$$d(e^{u(t)(1-n)t} p) = k(t)(1-n) e^{u(t)(1-n)t} dt$$

Integrating both sides we have

$$\int d [e^{u(t)(1-n)t} p] = k(t)(1-n) \int e^{u(t)(1-n)t} dt$$

$$e^{u(t)(1-n)t} p = k(t)(1-n) \int e^{u(t)(1-n)t} dt \tag{1.9}$$

But to integrate  $k(x)(1-n) \int e^{u(x)(1-n)x} dx$  we let

$$D = u(t)(1-n)t \tag{1.10}$$

$$\frac{dD}{dt} = u(t)(1-n)$$

So that

$$dt = \frac{dD}{u(t)(1-n)} \tag{1.11}$$

stituting (1.10) and (1.11) into (1.9) we have

$$e^{u(t)(1-n)t} p = \frac{k(t)(1-n)}{u(t)(1-n)} e^{u(t)(1-n)t} + A \tag{1.12}$$

Divide equation (1.12) all through by  $e^{u(x)(1-n)x}$ . we have

$$p = \frac{k(t)}{u(t)} + Ae^{-u(t)(1-n)t} \tag{13}$$

Substituting equation (1.2) into equation (1.13) we have

$$c_d^{1-n} = \frac{k(t)}{u(t)} + Ae^{-u(t)(1-n)t} \tag{1.14}$$

### 3. Methodology of the Study

Mathematical modelling techniques were applied for the study, deterministic model techniques were applied, the variables were subjected into mathematical tools, these developed a system that generated governing equation, these were derived to produced model for the study, these predictive solution were also subjected to simulations were parameters were varied at different conditions base on the system, the derived simulation parameters will be compared with measured field values from the fields for model validation.

### 4. Results and Discussions

**Table 1.** Predictive and Measured Values of Accommodation Conflict Management at Different Period

Period	Accommodation Conflict Management	Measured Field Values
1	0.011	0.01101
2	0.0211	0.02104
3	0.036	0.03109
4	0.0422	0.04116
5	0.0527	0.05125
6	0.063	0.06136
7	0.0738	0.07149
8	0.0843	0.08164
9	0.0949	0.09181
10	0.1054	0.102
11	0.1159	0.11221
12	0.1265	0.12244
13	0.1371	0.13269
14	0.1476	0.14296
15	0.1548	0.15325
16	0.1686	0.16356
17	0.1792	0.17389
18	0.1897	0.18424
19	0.2002	0.19461
20	0.2108	0.205

**Table 2.** Predictive and Measured Values of Accommodation Conflict Management at Different Period

Period	Accommodation Conflict Management	Measured Field Values
5	0.0527	0.051025
10	0.1054	0.1011
15	0.1581	0.151225
20	0.2108	0.2014
25	0.2635	0.251625
30	0.3162	0.3019
35	0.3689	0.352225
40	0.4216	0.4026
45	0.4743	0.453025
50	0.5171	0.5035
55	0.5797	0.554025
60	0.6324	0.6046
65	0.6851	0.655225
70	0.7378	0.7059
75	0.7905	0.756625
80	0.8432	0.8074
85	0.8959	0.858225
90	0.9486	0.9091

**Table 3.** Predictive and Measured Values of Accommodation Conflict Management at Different Period

Period	Accommodation Conflict Management	Measured Field Values
1	0.00684	0.0060303
2	0.0137	0.0120312
3	0.0206	0.0180327
4	0.0274	0.0240348
5	0.0343	0.0300375
6	0.0411	0.0360408
7	0.0479	0.0420447
8	0.0548	0.0480492
9	0.0617	0.0540543
10	0.0685	0.06006
11	0.0754	0.0660663
12	0.0822	0.0720732
13	0.0891	0.0780807
14	0.0959	0.0840888
15	0.1027	0.0900975
16	0.1095	0.0961068
17	0.1164	0.1021167
18	0.1233	0.1081272
19	0.1302	0.1141383
20	0.1371	0.12015

**Table 4.** Predictive and Measured Values of Accommodation Conflict Management at Different Period

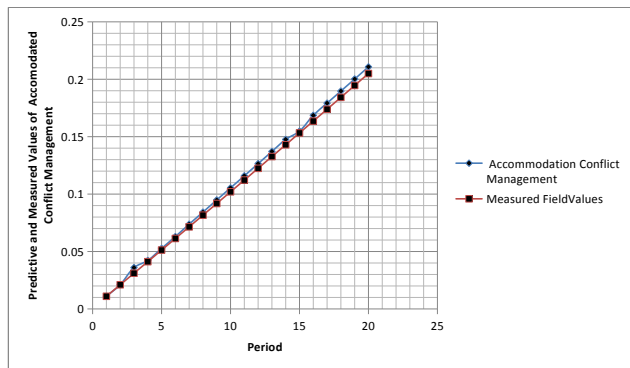
Period	Accommodation Conflict Management	Measured Field Values
5	0.0434	0.03405
10	0.0685	0.0642
15	0.10275	0.09445
20	0.1371	0.1248
25	0.1713	0.15525
30	0.2055	0.1858
35	0.2398	0.21645
40	0.2741	0.2472
45	0.3083	0.27805
50	0.3425	0.309
55	0.3768	0.34005
60	0.4111	0.3712
65	0.4453	0.40245
70	0.4795	0.4338
75	0.5138	0.46525
80	0.5481	0.4968
85	0.5823	0.52845
90	0.6165	0.5602

**Table 5.** Predictive and Measured Values of Accommodation Conflict Management at Different Period

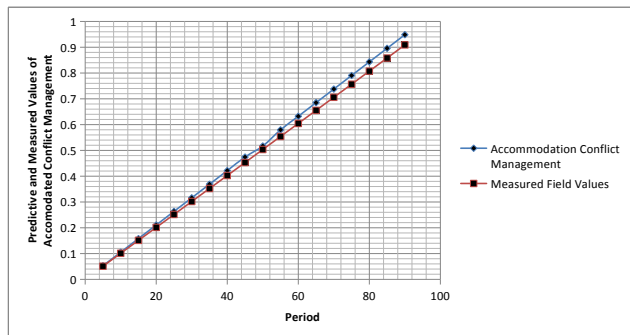
Period	Accommodation Conflict Management	Measured Field Values
5	0.0225	0.02002375
10	0.0451	0.04009
15	0.0675	0.06019125
20	0.091	0.08032
25	0.1125	0.10046875
30	0.1351	0.12063
35	0.1575	0.14079625
40	0.1811	0.16096
45	0.2031	0.18111375
50	0.2252	0.20125
55	0.2475	0.22136125
60	0.2712	0.24144
65	0.2951	0.26147875
70	0.3152	0.28147
75	0.3375	0.30140625
80	0.3611	0.32128
85	0.3825	0.34108375
90	0.4051	0.36081

**Table 6.** Predictive and Measured Values of Accommodation Conflict Management at Different Period

Period	Accommodation Conflict Management	Measured Field Values
5	0.0432	0.0399895
10	0.0864	0.079988
15	0.1296	0.1199855
20	0.1728	0.159982
25	0.2161	0.1999775
30	0.2592	0.239972
35	0.3024	0.2799655
40	0.3456	0.319958
45	0.3889	0.3599495
50	0.4321	0.39994
55	0.4752	0.4399295
60	0.5184	0.479918
65	0.5616	0.5199055
70	0.6048	0.559892
75	0.6481	0.5998775
80	0.6912	0.639862
85	0.7344	0.6798455
90	0.7776	0.719828

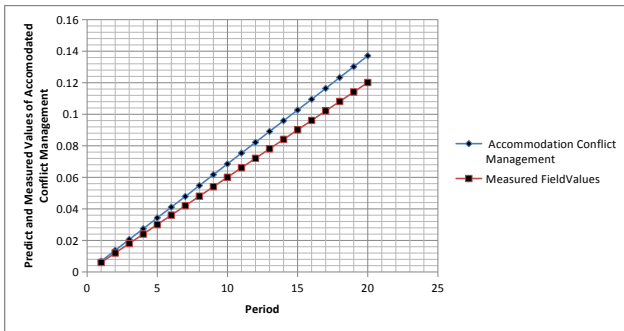


**Figure 1.** Predictive and Measured Values of Accommodation Conflict Management at Different Period

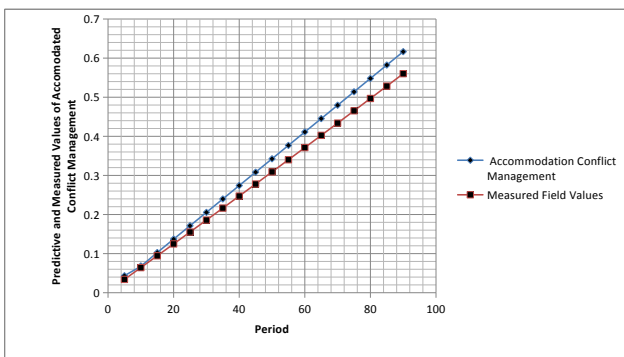


**Figure 2.** Predictive and Measured Values of Accommodation Conflict Management at Different Period

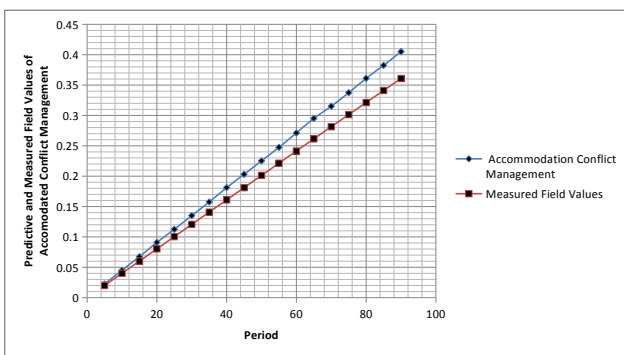




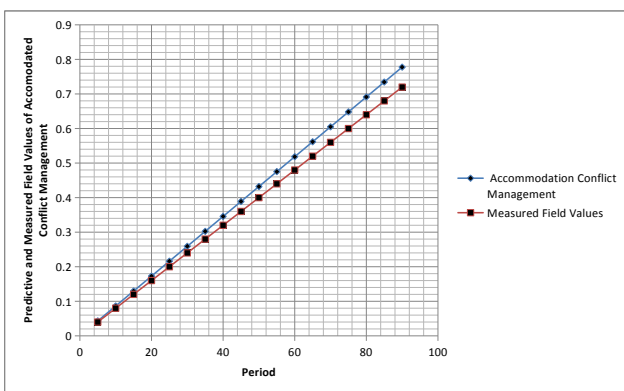
**Figure 3.** Predictive and Measured Values of Accommodation Conflict Management at Different Period



**Figure 4.** Predictive and Measured Values of Accommodation Conflict Management at Different Period



**Figure 5.** Predictive and Measured Values of Accommodation Conflict Management at Different Period



**Figure 6.** Predictive and Measured Values of Accommodation Conflict Management at Different Period

The study expressed the assessment of accommodation of conflict management strategies in oil and gas companies in Port Harcourt. The exponential state from figure one to six explain different ways strategic management of conflict are reflected in the performance of oil and companies, the figures observed linear increase on higher and lower percentage of performance in conflict management strategy in these multinationals, but predominant lower percentage were experience despite it linearization of in graphical representation, the major point of interest is the percentage increase at different period, the system definitely express that the rate of increase can only reflect appreciated goal only when it increase with higher percentage of performances in these sector. From the figures few period experience appreciated percentage of accommodated conflict management strategy in oil and gas sector while many other figures observed lower percentage of conflict management performances in these multinational sectors, the system explain the resultant of lower predominant performance on conflict management, this definitely affect the efficiency of the oil and gas sector and the economy will depreciate if the observed conditions continue. The study for the developed model values subjected these parameters to validation and both values developed favourable fits.

## 5. Conclusions

The study on monitoring accommodation of conflict management strategy has been evaluated using modeling and simulation techniques, the developed concept express the behaviour of the system in terms of rationalizing profitable management concept in conflict section from oil and gas, the derived mathematical simulation parameters generated values that experienced Linearized state of accommodation conflict strategy in oil and gas sector, but experience predominant lower percentage values at different period on efficiency, these were base on poor efficiency from other variables that are reflected in the system to generate the rate of accommodation conflict management strategy in oil and gas sector. The study expresses the predominant decline rate of accommodation conflict management strategy performance in these multinationals sectors, base on these expressed results. These imply that the efficiency of strategic management on conflict management need thorough attention in order to improve on overall efficiency of oil and gas companies in port Harcourt.

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