Full Length Research Paper

Contingent Factors and Integrated Cost Control System: Effect on Non-Financial Performance

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Abstract

The functionality of the integrated system has been explained from various theoretical bases. This study evaluated the influence of contingent factors (cost control structure and lines of authority) on integrated cost control system’s (cost control-information technology control applications) effect on corporate non-financial performance. The study relied on data gathered from 156 target respondents (operational managers, selected from accounting unit and IT resource unit) in 141 listed firms that actively traded in the Nigerian Stock Exchange (NSE) market during and shortly after the global financial meltdown (2006-2010). Data were analysed using multiple and hierarchical regression. The result revealed that cost control structure and lines of authority as contingent factors had modest significant influence ($\Delta R^2 = 0.118$) on integrated cost control system on firm’s effect on non-financial performance. The implication of the result, is that, firms with undefined internal cost control structure and lines of authority might need to give a consideration to these organisational factors, as these reflected significantly on the integrated systems efficiency.

Keywords: Integrated Cost control, Contingent factor, Cost control structure, Lines of authority, Non-financial performance

INTRODUCTION

Various aspects of management control systems strategies have been explored in extending practicable measures to remedy the dwindling performances of firms. These strategies which ranged from broad perspective of management control and accounting to specific task details, have been theoretically explained to have effect on performance (for example, organisational theory, rational choice theory, contingency theory, institutional theory, naturalistic and radical alternatives (Baxter and Chua, 2006, Widner, 2007, Campbell, 2009).

Empirical evidences on management accounting control systems strategies have shown that enhanced performance would result from a fit between cost control system and information technology system (integrated cost control system). This fit has been suggested as appropriate when operating in uncertain and hostile business environment (e.g., Granlund, 2007; Ajibolade and Omorogbe, 2013; Omorogbe, 2013). However, a distorted effect might result with moderating variables, based on the assumptions within the contingency framework (Chenhall, 2007).

The contingency theory suggests that different control systems may be appropriate depending on the influence of various contingent factors such as, technology, environment, size, strategy and structure (e.g., Chow, Heaver, and Henriksson, 1995; Chong and Chong, 1997; Chenhall, 2003; Hyvonen, 2008). Organisational structures for example, determine information flows, spells out clear chain of command and streamline operations.

The study is poised to examine the influence of contingent factors (cost control structure and lines of authority) on integrated cost control system’s [CC-IT] effect on corporate non-financial performance. Specifically the study, i) examined the effect of organisational structures (cost control structure and lines of authority) on the efficiency of cost control system; ii) evaluated the effect of organisational structure (cost control structure and lines of authority) on the efficiency of information technology control applications usage; iii)
ascertained the extent of influence organisational structures (lines of authority and cost control structure) would have on integrated cost control system’s effect on non-financial performance.

Following the introduction is a brief review of literature, theoretical consideration and conceptual model of the study; section three presented the methodology; discussion was presented in section four, major findings in section five and section six concludes the paper with practical implication.

LITERATURE REVIEW

Cost control is the process of curtailing expenditure, or resources sacrificed to attain set objectives or amount spent on resources used up in production of goods or provision of services (Horngren, Datar, Foster, Ranjan and Itter 2009; Kim, and Ballard, 2001). It is built on a cost accounting system. A comprehensive cost accounting system serves as a basis for understanding the process of cost formation in the firms’ value chain, in order to analyse and manage cost behavior (Lukka and Granlund 1996). They further explained that cost accounting system generally includes four broad areas: cost elements, cost centres, cost objects and operative performance measurement. Kaplan and Cooper (1998) distinguished four different stages in cost integration systems: Stage one: systems which are inadequate for financial reporting; Stage two: financial reporting driven systems; Stage three: customized, managerially relevant, but stand-alone systems; Stage four systems: integrated cost management and financial reporting systems. The fourth stage depicts a level where cost and performance measurement information become integrated into the main stream of organisational reporting and managerial processes.

Cost Control/ IT Control Applications and Performance

Cost control involves the use of costing techniques to monitor and evaluate performance. Advances in information technology have driven innovation and change in the collection, measurement, analysis and communication of information within and between organisations (Cooper and Dart, 2009). Information technology provides a platform for firms to develop cost accounting systems and control strategy. Olsen and Cooney, (2000) argued that firms are faced with the challenge of integrating information technology into accounting practice. It has been widely suggested that there are links between cost management accounting systems and information technology (Chenhall, 2003; Hyvonen, 2008; Alves, 2010). As yet, there is not much empirical evidence of the link between cost accounting systems and information technology. Information technology innovations such as enterprise resource planning systems, e-commerce, the internet electronic data interchange, supply chain management (Nagurney, 2006); customer relationship management (Edelstein, 2010), cash control management (HCL, 2009), scheduling of key task-service delivery/production (Cutting, 2010; Edwards and Edwards, 2001), and human and material resource management (Reilly, 1996; Rondeau and Litteral, 2001) have been implemented and provided a real–time rich source of information for cost accounting systems (Rom and Rohde, 2007; Cooper and Dart, 2009) in the areas of budgetary control, activity based costing, target costing and value analysis. All of these techniques are geared toward controlling a firm’s cost to improve corporate performance. The processes when systematized become an integrated cost control system.

Corporate performance refers to the accumulated outcome of efforts of a firm. It is the summary of attainment of set goals and objectives of the firm. Corporate performance conveys different understanding to different persons. There is a shift from traditional (financial) to contemporary (non-financial) measures of performance (Hyvonen, 2005; 2008). The growing emphasis on non-financial measures arose from the criticism that financial measures have received. Financial method has been criticised for excessive internal orientation or being historical and not being able to provide the information managers need in a highly competitive environment. (Ittner and Larcker, 1998). The non-financial aspect measured was on customer value (the difference between realization and sacrifice (Hansen and Mowen, 2005) in terms of, (lead time delivery and defect/deficiency level) and market share.

The Contingency Theory Perspective

Contingency theory suggested that there is no best way to organise a corporation, to lead a company, or to make decisions. Instead, the optimal course of action is contingent (dependent) upon the internal and external situation such as environment, technology, management control and organisational structure (Emmanuel, Otley and Merchant, 1990). The design and use of control systems are subject to the context of the organisational setting in which these control operate (Christopher, Anthony, and Michael 2007). Hence from the contingency perspective, there is no universally appropriate accounting system applying equally to all organisations in all circumstances (Emmanuel, et al., 1990). The contingency theory adopted in management control systems’ studies assumes that management accounting tools (which costing is a part) assist managers in achieving some desired outcomes or goals. Contingent factors when linked with such tools, and found
appropriate, is then likely to provide enhanced information to the individuals, improved management decision and long run performance (Haldma and Laats, 2002). The suitability of management accounting techniques in relation to performance would depend on organisational contextual variables (Chenhall, 2007). Hence, this study proposed that integrated cost control systems effect on performance could be contingent upon the organisational cost control structure and lines of authority.

Organisational Cost Control Structure

Ideally, cost control would require the accumulation of costs in centres (Saad, 2010). Cost control system establishes and measures the responsibility cost standard throughout the entire management cycle in order to promote goal congruence and achieve cost reduction continuously. Cost control structure of an organisation determines pattern of cost control and the extent to which it influences other activities. Cost control is structured as cost accumulation centres/or responsibility centres described as cost centres, profit centres, revenue centres and investment centres.

Cost centre is accountable only for expenses as it does not generate revenue but monitors cost in order to yield revenue. Examples include accounting departments, human resource department, and similar area of business that provide internal service; Profit centre accepts responsibility for both revenue and expenses. For example, a product line or an autonomous business unit; Investment centre is classified as such when it is treated as a unit which is measured against its use of capital. The investment centre takes care of revenue, cost and assets. This form of measurement is more encompassing because it accounts for all uses of capital (Business dictionary, 2011). However, if a profit centre has its own assets, it may also be considered an investment centre, for which returns on investment can be determined (Encyclopedia of Business, 2010); Revenue centre is a division that generates revenue from product sales and/or services provided (Business dictionary, 2011). Saad, (2010) indicated that management of cost in different cost accumulation centres makes control more intensive.

Organisational Lines of Authority

Authority refers to the manner in which control is exercised in the firm. The lines of authority could be centralised or decentralised. When centralised, authority is held in the hands of a few selected employees and retention of decision-making authority by a high-level manager. However, when decentralised, authority is distributed and organisation members have the right to make decision without obtaining approval from a higher-level manager. The delegation of authority creates a chain of command, the formal channel that defines the lines of authority from the top to the bottom of an organisation. Decentralisation consists of a series of relationships from the highest position in the organisation to the lowest specifying clear reporting relationship for each person in the organization, which should be followed in both downward and upward communication (Shippes and Manz, 1992).

Decentralisation in the form of departmentalisation is the aspect commonly examined in management accounting research as it is often accompanied with some control problems. It brings about a greater need of control and integrates the work of all departments/units that make up the organisation (Gordon and Miller, 1976). This study hypothesises that the type of cost control structure and lines of authority (contingent factors) existing in the firm would influence cost control system and information technology system’s efficiency, which in turn would have effect on non financial performance (Figure 1). Hence the following hypotheses were tested:

i. $H_0$: Organisational structures (lines of authority and cost control structure) have no significant effect on the efficiency of cost control system.

ii. $H_0$: Organisational structures (lines of authority and cost control structure) have no significant effect on the efficiency of information technology system.

iii. $H_0$: Organisational structures (lines of authority and cost control structure) do not influence integrated cost control systems effect on non-financial performance.

METHODOLOGY

The problem of this study was addressed using a cross-sectional survey setting. The study employed this design, because users’ evaluation has been identified to be best means of measuring performance (e.g., Prasad, 2008). The population of this study consists of 141 firms listed on the floor of the Nigerian Stock Exchange that actively traded during the 2006-2010 financial period. This scope (years covered) is an appropriate sample frame as many firms trading on the floor went through a period when the market downturned and picked-up. Total number of listed firms in NSE as at 2006 was two hundred and ten firms (210) while in 2010, was two hundred and eighteen (218) firms listed in the market. A look at NSE fact book revealed that, a total of 69 firms have either been delisted with new firms listed; while some changed their nomenclature. One hundred and forty-one (141) firms only, of the number listed in 2006 survived the 2008 economic/financial crisis and are still active in the market in 2010. This formed the population of this study.

A sample of 103 was selected from the population using the economic sample size formula as applied in modular grant application process (See, Moore and McCabe,
1999). It allows for indiscriminate selection from a large population and check duplications. This sample size was then selected from the population using stratified sampling technique and random sampling. Stratified sampling technique was used since sufficient information was available to divide the selected sample into strata. The firms were separated into sectoral distribution and proportionate number taken from across the sectors (n/population x sample), as shown in Table 1. This method allows equal chance for members of all sectors to be selected.

Data were collected using a questionnaire to obtain managers evaluation on variables identified as cost control structure, lines of Authority, information technology control applications utilization, cost control efficiency and non-financial performance. These variables were operationalised and measured using five-point likert scale adapted from the works of Reilly (1996), Madapusi and Ortiz (2009) and Afaan (2009) and has been used extensively in Venkatesh and Davis (1996), Dishaw and strong, (1999), Mishra, (2004) and Pamulu and Bhuta (2004) with the two extremes of “strongly disagree”/“not efficient” representing (1) and “strongly agree”/“highly efficient” representing (5). Evaluation score below 2.0 were grouped as low; 2.0 to less than 4.0 were grouped as moderate while scores of 4.0 and above as high efficiency/performance as appropriate. For firm control structure the response options were ranked for analysis, while for lines of authority questions were designed as nominal, using SPSS version 17. This kind of adaptations and modifications is however not uncommon with research works on performance (Klopping and McKinney, 2004; Usoro Shoyelu and Kuofie, 2010).

The research instrument was validated by means of Cronbach’s alpha coefficient to determine internal consistency, variability and reliability of instrument. The result revealed Composite reliability (CR) scores of above 0.7 for all measures. The validated instrument was administered on two hundred and six respondents from one hundred and three listed firms in Nigeria. The target respondents were operational managers, one each from accounts unit and IT resource centre. Prior studies (Simons, 1987, In MdAuzair, 2011) on management control systems also focused on top-managers. They possessed sufficient knowledge about the financial operational environment and accounting information and communication systems. One hundred and fifty-six (156) usable responses (representing 76% response rate) were obtained.

Objectives one and two were achieved through the test of the null hypotheses (i) and (ii) using multiple regression analysis while objective three was achieved through the test of null hypothesis (iii) using hierarchical regression. The following models 1 and 2 tested hypotheses (i) and(ii) respectively and models 3a and 3b tested hypothesis (iii).

\[
\begin{align*}
CCEff_1 &= \beta_0 + \beta_1 \text{struct}_1 + \beta_2 \text{OV auth}_1 + \epsilon_1 \\
ITEff_1 &= \beta_0 + \beta_1 \text{struct}_1 + \beta_2 \text{OV auth}_1 + \epsilon_1 \\
NFP &= \beta_0 + \beta_1 \text{int} + \beta_2 \text{est struct} + \epsilon_1 \\
NFI &= \beta_0 + \beta_1 \text{int} + \beta_2 \text{est struct} + \beta_3 \text{int Dec auth} + \epsilon_1 \\
\end{align*}
\]
Table 1. Sectorial distribution of firms according to NSE listing

<table>
<thead>
<tr>
<th>S/N</th>
<th>SECTORS</th>
<th>NO. OF FIRMS IN EACH SECTOR</th>
<th>PROPORTIONATE NUMBER SELECTED</th>
<th>PERCENTAGE IN SAMPLE (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>AGRICULTURE/AGRO-ALLIED</td>
<td>5</td>
<td>4</td>
<td>3.88</td>
</tr>
<tr>
<td>2</td>
<td>AIRLINE SERVICES</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>AUTOMOBILE and TYRE</td>
<td>1</td>
<td>1</td>
<td>0.97</td>
</tr>
<tr>
<td>4</td>
<td>BANKING</td>
<td>16</td>
<td>11</td>
<td>10.67</td>
</tr>
<tr>
<td>5</td>
<td>BREWERIES</td>
<td>7</td>
<td>5</td>
<td>4.85</td>
</tr>
<tr>
<td>6</td>
<td>BUILDING MATERIALS</td>
<td>4</td>
<td>3</td>
<td>2.91</td>
</tr>
<tr>
<td>7</td>
<td>CHEMICAL AND PAINTS</td>
<td>6</td>
<td>4</td>
<td>3.88</td>
</tr>
<tr>
<td>8</td>
<td>COMMERCIAL/SERVICES</td>
<td>1</td>
<td>1</td>
<td>0.97</td>
</tr>
<tr>
<td>9</td>
<td>COMPUTER and OFFICE EQUIPMENT</td>
<td>5</td>
<td>4</td>
<td>3.88</td>
</tr>
<tr>
<td>10</td>
<td>CONGLOMERATES</td>
<td>7</td>
<td>5</td>
<td>4.85</td>
</tr>
<tr>
<td>11</td>
<td>CONSTRUCTION</td>
<td>6</td>
<td>4</td>
<td>3.88</td>
</tr>
<tr>
<td>12</td>
<td>EMERGING MARKETS</td>
<td>14</td>
<td>10</td>
<td>9.71</td>
</tr>
<tr>
<td>13</td>
<td>ENGINEERING TECHNOLOGY</td>
<td>3</td>
<td>2</td>
<td>1.94</td>
</tr>
<tr>
<td>14</td>
<td>FOOD/BEVERAGES and TOBACCO</td>
<td>10</td>
<td>7</td>
<td>6.79</td>
</tr>
<tr>
<td>15</td>
<td>FOOTWEAR</td>
<td>1</td>
<td>1</td>
<td>0.97</td>
</tr>
<tr>
<td>16</td>
<td>HEALTHCARE</td>
<td>7</td>
<td>5</td>
<td>4.85</td>
</tr>
<tr>
<td>17</td>
<td>HOTEL and TOURISM</td>
<td>1</td>
<td>1</td>
<td>0.97</td>
</tr>
<tr>
<td>18</td>
<td>INDUSTRIAL/DOMESTIC PRODUCTS</td>
<td>7</td>
<td>5</td>
<td>4.85</td>
</tr>
<tr>
<td>19</td>
<td>INSURANCE</td>
<td>14</td>
<td>10</td>
<td>9.71</td>
</tr>
<tr>
<td>20</td>
<td>MACHINERY (MARKETING)</td>
<td>2</td>
<td>1</td>
<td>0.97</td>
</tr>
<tr>
<td>21</td>
<td>MANAGED FUNDS</td>
<td>1</td>
<td>1</td>
<td>0.97</td>
</tr>
<tr>
<td>22</td>
<td>MARITIME</td>
<td>1</td>
<td>1</td>
<td>0.97</td>
</tr>
<tr>
<td>23</td>
<td>MORTGAGE FIRMS</td>
<td>1</td>
<td>1</td>
<td>0.97</td>
</tr>
<tr>
<td>24</td>
<td>PACKAGING</td>
<td>8</td>
<td>6</td>
<td>5.83</td>
</tr>
<tr>
<td>25</td>
<td>PETROLEUM (MARKETING)</td>
<td>7</td>
<td>5</td>
<td>4.85</td>
</tr>
<tr>
<td>26</td>
<td>PRINTING and PUBLISHING</td>
<td>4</td>
<td>3</td>
<td>2.91</td>
</tr>
<tr>
<td>27</td>
<td>REAL ESTATE</td>
<td>1</td>
<td>1</td>
<td>0.97</td>
</tr>
<tr>
<td>28</td>
<td>TEXTILES</td>
<td>1</td>
<td>1</td>
<td>0.97</td>
</tr>
<tr>
<td></td>
<td>TOTAL</td>
<td>141</td>
<td>103</td>
<td>100</td>
</tr>
</tbody>
</table>


Where

$CCS_{eff_i}$ = cost control efficiency  
$IT_{eff_i}$ = information technology efficiency  
$OV_i$ = organisational variable  
$struct_i$ = cost control structure  
(auth_i) = lines of authority  
$NFP_i$ = Performance  
$\beta_s$ = these are the estimated regression coefficients  
$e$ = the error term in a regression model, and  
$i = index (proxy) for performance$  
Int*struc = interaction of integration and organisational structure which shows the moderating effect of structure on the effect of integration on performance  
Int*auth = interaction of integration and organisational authority which shows the moderating effect of authority on the effect of integration on performance

DISCUSSION

As earlier noted, cost accounting is the basis for cost control, hence a descriptive analysis on costing system development, was examined based on four stages as outlined in literature: (i) Inadequate cost information (ICI), (ii) Financial reporting driven (FRD), (iii) Customized, managerially relevant, but stand-alone systems (CMSS), (iv) Integrated cost management and financial reporting systems (ICMFS). The result indicated that 64.7% of firms were in stage two and three of cost system development. The average of sum of the scores obtained from each item on cost system development, and frequencies with a total mean scores of 3.65, indicated moderately developed costing system. Table 2 presents the summary panel of cost accounting system development at 95% confidence level.
Organisational structures (lines of authority and cost control structure) have no significant effect on the efficiency of cost control system. Confirming significant relationship with some of the variables in CC system, a linear regression model was used in explaining the extent of the relationship.

\[
\text{CCS eff} = \beta_0 + \beta_1 \text{OV struct} + \beta_2 \text{OV auth} + \epsilon 
\]  

(1)

\[
\text{CCS eff} = 4859 + 0.774 \text{struct} -0.198 \text{auth} + 0.74586
\]

The regression model 1 (test of hypothesis 1) confirmed significant positive relationship \(p < 0.05\), with \(R^2 = 0.142\) as shown in Table 3. This suggests that only 14.2% of variation in of cost control efficiency can be explained by cost control structure and lines of authority. The fitness of the model can be explained by F-ratio of 13.457.

These results support a rejection of the null hypothesis one that, organisational structures (lines of authority and cost control structure) have no significant effect on the efficiency of cost control system.

Confirming significant relationship with some of the variables IT system, a linear regression model was used in explaining the extent of the relationship.

\[
\text{IT eff} = \beta_0 + \beta_1 \text{OV struct} + \beta_2 \text{OV auth} + \epsilon 
\]  

(2)

\[
\text{IT eff} = 4.551 + -0.045 + \text{struct} + 0.016 \text{auth} + 0.66364
\]

Model 2 (test of hypothesis 2): The results of the regression analysis as revealed in Tables 4 confirmed a statistically significant model, \(p < 0.05\), with adjusted \(R^2 = 0.157\) and F-value of 12.995, explained the variation in efficiency of information technology system. The null hypothesis of no significant effect of organisational structures (lines of authority and cost control structure) on the efficiency of information technology system was rejected as suggested from these results.

Model 3a and 3b (test of hypothesis 3): The regression analysis as revealed in Table 5 showed that CC-IT systems can explain about 57.0% \(\text{Adj} R^2 = 0.570\) of non-financial performance. The F value of 67.822 \((p<0.01)\), indicated that the fitness of the model was significant in explaining CC-IT systems integration on non-financial performance. A step further to ascertain possible distortion or influence on achieved performance, with the introduction of organisational structures- lines of authority and cost control structure in the model, resulted in the use of hierarchical regression analysis, which showed a fairly significant increase in \(R^2\) \(\Delta R^2 = 0.118\) at \(p > 0.05\); with F-change value of 12.070, representing the fitness of the changed model. This meant a rejection of null hypothesis three.

MAJOR FINDINGS

Results for objectives (i) and (ii) on the influence of organisational factors on cost control system and information technology system’s efficiency

To achieve objectives (i) and (ii) null hypothesis (i) and (ii) were tested. The research sought to find out the effect of organisational cost control structure and lines of authority on cost control system and information technology system’s efficiency. The result revealed that organisational factors can explain about 14.2% of cost control system’s efficiency and about 15.7% of IT-control applications usage efficiency. These results suggested a rejection of the null hypothesis one and two of no significant influence. These results would be interpreted
Table 4. Regression Results Relating the Effect of Organisational Structures (Lines of Authority and Cost Control Structure) Effect With Efficiency of Information Technology System

<table>
<thead>
<tr>
<th></th>
<th>Beta</th>
<th>Stdzd Beta</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>4.551</td>
<td>-</td>
<td>0.000</td>
</tr>
<tr>
<td>Organisation cost control structure</td>
<td>-0.045</td>
<td>-0.038</td>
<td>0.046</td>
</tr>
<tr>
<td>Organisation authority</td>
<td>0.016</td>
<td>0.049</td>
<td>0.039</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td></td>
<td>0.157</td>
<td></td>
</tr>
<tr>
<td>F (P_value)</td>
<td></td>
<td>12.995 (0.014)</td>
<td></td>
</tr>
</tbody>
</table>

Dependent variable: IT control applications

Table 5. Regression Results of Hierarchical Regression Analysis to Determine the Significance of Contingent Variables

<table>
<thead>
<tr>
<th>Non-financial performance</th>
<th>Beta</th>
<th>Stdzd Beta</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>1.820</td>
<td>-</td>
<td>0.000</td>
</tr>
<tr>
<td>Integrated cost control system</td>
<td>0.662</td>
<td>0.524</td>
<td>0.000</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td></td>
<td>0.570</td>
<td></td>
</tr>
<tr>
<td>F (P-value)</td>
<td></td>
<td>67.882 (0.000)</td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>1.773</td>
<td>-</td>
<td>0.000</td>
</tr>
<tr>
<td>Integrated cost control system</td>
<td>0.622</td>
<td>0.492</td>
<td>0.000</td>
</tr>
<tr>
<td>Int*struct</td>
<td>0.014</td>
<td>0.041</td>
<td>0.701</td>
</tr>
<tr>
<td>Int*auth</td>
<td>0.028</td>
<td>0.166</td>
<td>0.121</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td></td>
<td>0.688</td>
<td></td>
</tr>
<tr>
<td>F (P-value)</td>
<td></td>
<td>51.227 (0.000)</td>
<td></td>
</tr>
<tr>
<td>R²-change</td>
<td>0.118</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-change</td>
<td>12.070(0.030)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dependent variables: Non-financial performance

as evidence that cost control structure and lines of authority have significant influence on cost control efficiency and on IT system’s efficiency. The amount of variation suggests a weak association. The expectation of significant effect of organisational factors on CC-IT systems efficiency was therefore supported. That means the efficiency of cost control system and of information technology control applications usage will vary with existing cost control structure and lines of authority in the organisation. These findings are in conformity with earlier evidences of moderating effect of contingent variables, as in the study of Afaanz, (2009), where designing of management control system packages according to internal environment (contingent factor) had effect on efficiency (performance).

Results for objective (iii) on the extent of influence organisational structures (lines of authority and cost control structure) would have on the effect of integrated cost control systems on performance

To achieve objective (iii), null hypotheses (iii) tested the organisational structures (lines of authority and cost control structure) influence on integrated cost control systems (CC-IT) effect on performance. The results on CC-IT effect on non-financial performance indicated a significant model at p< 0.01, with R² value of 0.570. The fitness of the model was explained by F-ratio of 67.822 which is high and significant in explaining integrated cost control system’s effect on non-financial performance. The moderating effect of organisational factors influence accounted for a change in R²; fairly significant increase in R² (Δ R² = 0.118 at p > 0.05). The model that incorporates organisational variables had an improved explanatory power from 57% to 69%. That is to say, organisational structures (lines of authority and cost control structure) influence on integrated cost control systems lead to a fairly significant change in non-financial performance.

These results suggest that a systematic relationship exists between integration and non-financial performance. It provided weak support for the expectation in the study, that integration may be used as influence on the performance of listed firms especially in terms of non-financial performance. Nonetheless, the finding is consistent with the studies of Ponderville, (1999) where an interaction fit was supported in relation to...
contextual factors and management control systems and Hyvonen (2008) where an IT association with management control systems was linked to performance.

CONCLUSION/IMPLICATION FOR PRACTICE

This study, attempted to provide empirical evidence on the influence of contingent variables (cost control structure and lines of authority) on integrated cost control system’s effect on non-financial performance in listed firms in Nigeria. The study provided evidence that cost control structure and lines of authority has effect on cost control system and information technology system (control application usage) efficiency. It has provided findings in support of the proposition that integrated cost control system would be moderated by cost control structure and lines of authority efficiency to enhance non-financial performance. The modest influence of cost control structure and lines of authority on integrated cost control system observed might be due to the number of firms with undefined internal cost control structure and lines of authority as evidenced from the descriptive analysis. Hence, this study recommends corporate organisations to give a consideration to the functionality of cost accounting system and these organisational factors, since these reflected significantly on the system’s efficiency and non-financial performance. Any generalisation of this study should however be done with caution bearing in mind that a combined industrial data has been used. Future research direction could involve specific industry to confirm the findings from this study.

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