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The Role of Management Control and Relationship between Management Control Usage and Planned Change Achievement: An Exploratory Study

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Abstract
This paper explores the extent to which managers believe their management control are employed when implementing planned change. Relationships between commonly employed management controls and implementation success are also estimated using data drawn from managers in 22 organizations in Nigeria. Although the relevance of management control to successful change achievement has been conceptually acknowledged, empirical matters such as measuring the contribution of control to effective change implementation lack practical investigation. Results indicated that managers used management control less extensively than other elements of change process, although usage of control increased with implementation. A strong relationship was found between the use of control based on outcomes monitoring and implementation success. However, there was no significant relationship between the uses of behavior based controls and implementation success. Overall, the findings suggest that many organizations may underutilize formal controls, particularly those related to outcomes monitoring, when managing change.
Keywords: Management, Control, Usage, utilization, managers

1. Introduction

This study explores the empirical linkage between management controls and the achievement of planned change. Data from 80 managers in 22 organizations across Nigeria are analyzed to examine the extent to which management controls are employed in the implementation process. In addition, relationships between commonly employed management controls and implementation success are estimated. The theoretical and practical issues of these findings on the governance of planned change are then discussed. How important are management control to the achievement of planned change? Some scholars have argued that formal control are vital to effective implementation, particularly when the change is strategic in nature (Kotter and Schlesinger, 2009; and Simons, 2005), Other scholars are of the opinion that the reactive nature of most management control systems reduces managers' ability to anticipate future challenges and opportunities that often arise during the implementation process (Schreyogg, 2007; and Aguguo, 2002). Some research studies carried out have produced little compelling evidence to rectify these competing perspectives. Empirical studies that assess the role of management control in change implementation should therefore offer potentially meaningful contribution.

2 Literature Review

2.1 Management Control Systems

Management controls are formal, information-based routines that managers use to maintain or alter patterns in organizational activities (Simons,2005), Central to most management control is setting behavioral or output standards and employing mechanisms to ensure that these standards are achieved (Merchant, 2005 and Lekwachi, 2004). Most of these mechanisms are diagnostic in nature; meaning that they require assessment of how well performance is achieving objectives and analysis of where problems may exist (0kafor, 2001). Corrective action flowing from diagnosis is aimed at revising behaviour, goals, or both in order to sufficiently reduce a perceived performance gap. Many information systems can be employed in a diagnostic control capacity, including profit plans, budgets, project management, human resource processes, and that measure strategic performance (Sule, 2000).

In this study, management control is viewed as tools that managers use to control employee behaviour that enables the successful implementation of planned change. Three variables are viewed as central to operationalizing management control: performance review and appraisals, rewards and outcome monitoring. Performance review and appraisals are often used for controlling employee behavior (Lawler, 2004; and Kelechi, 2008). Secondly, rewards are often utilized to motivate behavior to achieve positive organizational outcomes (Cummings and Schwab, 2003; and Merchant, 2005). Thirdly, outcome monitoring is used to formulate information streams that provide a picture of how the organization is functioning (Lawler, 2004; Achi, 2000; Kaplan andNorton,2002) and used for assessing the information in order to assess whether the initiative is on track and taking corrective action when necessary (Lanre,2003; and Sule, 2000).

2.2 Planned Change and other Change Process Variables

The literature is unclear as to the importance of management control systems when implementing planned organizational change. Planned change refers to a premeditated, agent-facilitated intervention intended to modify organizational functioning towards a more favourable outcome (Lippit, 2008). Since they help keep things on track (Merchant, 2005), control should help managers govern the implementation process (Simons, 2005). Indeed, high-level control system variables have been specified in many conceptual change models (Tichy, 2003; and Burke and Litwin, 2002). Moreover, poor control utilization has been cited as a deterrent to effective change achievement by both scholars (Kotter and Schlesinger, 2009) and by empirical commentators (Charan and Colvin, 2009).

2.3 Other Change Process Variables

In order to empirically study management control, it is necessary to discuss other change process variables that are viewed as essential to the implementation success of planned change. To obtain other change process variables for this study, the paper examined the widely cited change models of Tichy (2003), Nadler and Tushman (2009) and Bimbo (2002). In particular, it sought elements that were common to these models under the assumption that such commonalities would provide some conceptually valid change process variables for our investigation. The study revealed three elements common to these models: determining the content and actions of the initiative, developing new behavior and work processes necessary to achieve the change, and communicating to the organization during implementation. The development and delivery of new skills would seem a necessary prerequisite to attaining the organizational goals that would signify successful change implementation. Finally, systematic communication and feedback have been suggested as essential to effective change in organizations (Kotter, 2006). While a number of studies have focused on contingency relationships between controls elements and the content of change strategy (Ugochukwu, 2005; and Simons, 2007), there has been little investigative focus on the relationship between management control and change achievement. This study offers an insight into the extent to which managers employ control when implementing change. In addition, it estimate the significance of the relationship Management Control System Usage and Planned Change between management control and implementation success. The study explores both management control system variables and other variables that have been shown to be significant to the successful implementation of planned change. Hypotheses related to these objectives are expressed in the following section.

2.4 Hypotheses Formulation

Extent of Management Control Use

Although control are often prescribed as necessary elements of effective change process (Simons, 2005), many managers appear to ignore or avoid formal control to manage change (Chibuzo, 2009). Okpulor (2004) suggested that managers might not use management control when implementing change out of fear that their original plans would be proven wrong. Moreover, the outcomes of many changes, particularly those strategic in nature are often difficult to measure which may reduce the effectives of control based on measuring and monitoring mechanisms (Sule, 2000). Furthermore, routine activities associated with management control such as reviewing status reports and following up on corrective action may be viewed as boring and mundane to many managers when compared to other change-related activities such as developing change strategy and meeting with employees, customers and other stakeholders to motivate the change program. Because of these challenges managers are likely to favour other change-related activities over management control during the implementation process

Hypothesis la: Use of management control will be significantly lower than the use of other change process elements when implementing planned change.

Identifying performance measures that reflect successful change achievement should be essential to the efficacy of control in the context of managing change (Simons, 2005). However, managers often initiate change without a clear notion of what the final results will be or how to measure them. Empirical evidence indeed suggests that many change initiatives proceed for long periods without substantive measurement • (Troy,2005). As implementation progresses, though, it is likely that the outcomes and goals of a change initiative may become easier to visualize as initial plans are revised and executed over time. For example, a change from individual to team-based problem solving may take months or years before substantial effects are observed. It may be sometime, therefore, before enough information is available to enable the effective use of management control to track implementation progress. Therefore, it is hypothesize that:

Hypothesis Ib: Use of management control will increase as implementation of a planned change progresses.

2.5 Management Control and Change Achievement

As noted above, there are a number of arguments against the usefulness of management control for implementing change. The reactive nature of management control brings difficulties with goal identification and

measurement , and the intrusive nature of many monitoring-based control suggest an insignificant or perhaps negative role for management control in the implementation process. However, the benefits of management control system should outweigh these disadvantages when implementing planned change. Planned change refers to a premeditated, agent-facilitated intervention intended to modify organizational functioning towards a more favourable outcome. It reflects the teleological category of change theory that views organizational change as being achieved primarily through the adaptive behavior of individuals in light of internally set goals. However, the goals between individuals and the organization often diverge when a new initiative is introduced, causing many to resist the change (Troy, 2005). Without the systematic tracking mechanism, managers may not sense that a change initiative is off course and in need of revision, which may result in unsatisfactory implementation. Therefore:

Hypothesis 2: Use of diagnostic management control will be positively related to the successful implementation of planned change.

3. Methodology

3.1 Management Control Usage and Planned Change Sample

The sample came from organizations in Nigeria. Many of these organizations had more than one manager. This was attractive, since multiple respondents can counter the response bias possible when using retrospective accounts in organizational research (Golden, 2002). The managers were asked to complete the research questionnaire during the investigation. Only organizations where more than one response was obtained were included in this study; multiple responses from 22 organizations were secured for this investigation. With 80 managers responding in total, a mean of 3.6 respondents per organization was obtained. General information about the sample organizations appears in Table 1. Manufacturing and service sectors were evenly represented. Approximately two-thirds of the organizations were privately owned, while the rest of the sample consisted of publicly owned and non-profit making organizations. Over 90%of respondents were at least middle-level managers; more than half were upper-level managers. In the questionnaire, managers were asked to respond based on how their organizations were implementing a current change initiative. Table 1 also includes a brief description of these 'reference changes' along with respondents' mean estimates of the degree to which the changes had been implemented. The content of the change initiatives varied widely, ranging from large-scale changes in strategy, markets, and culture to more project-oriented changes. The reference changed ranged from 25% to 100% implemented.

3.2 Operational Measures of Variables

Although management controls assume many practical forms (Simons, 2005), they are often conceptualized as linked to either behaviour or output control (Kelechi, 2008). Three scales were developed to assess the extent to which both behavioural and output control were employed during the change's implementation .Two single item scales assessed the use of two commonly used behavioural. Since performance review and appraisal are often employed to control employee behaviour, one single item scale measured the extent to which managers reviewed employee performance during the implementation process (Lawler, 2004). The other single item scale reflected the use of incentives and rewards as part of the implementation process, since reward have often been utilized to motivate behaviour consistent with positive organizational outcomes (Cummings and Schwab, 2003; Merchant, 2005). The third scale was a composite of two items meant to reflect the presence of outcomes monitoring and control: information streams that provide a picture of how the organization is functioning (Akuma, 2009).

Table 1: Summary of respondents

ID	Sector	Ownership Size	Respondents	Description	Implemented
1	Mfg	Private	3	5	New business segment Entry 60%
2	Service	Non-profit	4	6	Vision/mission diffusion 83%
3	Service	Private	3	2	Wholesaler partnership Program75%
4	Service	Non-profit	4	2	NASA 75%
5	Mfg	Private	5	7	High performance work group structure25%
6	Service	Private	3	4	Employee activity management process 63%
7	Service	Public	4	4	Corporate restructuring 56%
8	Service	Private	4	4	Predictive maintenance service development 69%
9	Service	Private	2	2	Project cost estimation 38%
10	Mfg	Private	1	3	New product line rollout 75%
11	Mfg	Private	3	4	Project management 63%
12	Mfe	Private	3	2	Work team empowerment 100%
13	Service	Private	5	4	Team based structured problem 25%
14	Mfg	Public	4	5	Outsourcing of assembly process 85%
15	Service	non-private	5	3	TQM implementation 33%
16	Mfg	Private	3	2	Vendor delivery time improvement 63%
17	Mfg	Public	4	4	Reduced purchased production 67%
18	Service	Private	5	5	Product creation team structure 8 1 %
19	Service	Private	3	3	New product development 75%
20	Service	Private	3	3	Communication of biz plans 33%
21	Mfg	Private	3	3	Just in time production process 42%
22	Mfg	Private	4	3	Pay-for-performance incentives 92°/

Source. Field survey, 2015
Key: Mfg = Manufacturing

3.3 Control variables

A number of control variables were included. Responses to each of the control variables were on a 1 to 5 scale. Since the usage of management control and other elements of change process might depend on the degree to which the reference change had been implemented, respondents were asked to estimate the reference change's percentage towards completion (1 ¼ implementation not yet begun; 5 ¼75 - 100% implemented). Scope of a change might also influence choice of particular control elements as well as the potential impact on organizational outcomes. For instance, changes with a broader, more strategic scope might be more difficult to implement or have a more significant effect on organizational outcomes than smaller, more incremental changes (Burke and Litwin, 2002). Therefore, respondents estimated the percentage of the organization that would be impacted once the change was implemented (1 ¼ 0 - 20%; 5¼ 80 - 100%). Since use and effectiveness of particular management controls may depend in part on an organization's past change history and on learning capabilities, respondents were asked to estimate The organization's historical success with implementing change (1 ¼not very successful; 5 ¼very successful) and the organization's experimenting tendency (1 ¼ organization

frowns on experimenting; 5¼ organization is trying something new constantly).Finally, since general governance structure tends to increase with the hierarchical structure found in larger organizations (Oluchi, 2001), size of the organization was estimated by the respondents (1 !4 0 to 50 employees; 5 *V** more than 1000).

3.4 **The Research Methodology**

Since managers were asked to rate aspects of both the actions and outcomes of implementation process, considerable response bias was possible. Researchers have noted problems with self-rated measures of change, based largely on the argument that a rater's basis for comparison shifts as the organization itself changes (Lanre, 2004). To reduce the bias effects, respondents from each organization were split into two groups. For example, if four responses were obtained from an organization, they were divided into two groups of two. In one group, only the two individual's responses to questions about change process activities were admitted; their responses related to outcomes were omitted. In the other group, only the two individual's responses related to outcomes were admitted. For each group, the individual responses were then combined into an average response. Average or summated scales reduce measurement error by combining indicators and reducing reliance on a single response (Golden, 2002). In light of the sample size and the need to conduct some multivariate analyses, missing data were replaced with means at the item level. Examination of means, standard deviations, and correlations before and after replacement revealed only minor differences. Finally, the summated scales from each group were combined with the mean outcomes from the other group to form the average response for each organization. Average responses for each of the 22 organizations were developed in this manner and provided the basis for subsequent hypothesis testing. Descriptive statistics and bivariate correlations for the study variables appear in Table 2.

Table 2. Descriptive statistics and bivariate correlations of study variables (N % 22)

		Mean	Std dev	1	2	3	4	5	6	7	8	9	10	11	12
1	Perf Appraisal	2.06	0.868												
2	Rewards	1.85	0.556	0.10											
3	Outcomemonitoring	2.31	0.725	0.06	0.44										
4	Problem Analysis	2.56	0.721	0.45	20.15	0.07									
5	Action Planning	2.77	0.7752	0.17	0.14	0.15	20.41								
6	Skill Development	2.55	0.710	20.26	0.14	0.39	20.26	0.39							
7	Communication	2.21	0-835	0.21	0.50	0.23	0.07	0.46	0.40						
8	Jusiness Results	2.37	1.008	0.35	0.29	0.65	0.35	0.01	0,34	39					
9	% Complete	3.50	0.881	0-03	0.09	0.10	0.03	0.20	0.02	0.33	0.36				
10	Change Scope	3-09	0.959	20.09	0.20	20.18	0.17	20.26	20.04	0.25	0.15	20.02			
11	Ore Size	3.70	0.876	20.27	0.00	0.19	20.16	20.24	0.07	20.13	20.01	20.16	0.04		
12	Previous Success	2.97	0.886	20.04	0.07	0.17	0.23	20.01	0.34	0.38	0.36	0.44	20.07	20.09	
13	Experiment Tendency	3.68	0.723	0.19	20.27	T20.42	20.07	0.07	20.05	0.05	20.31	0.02	0.14	20.38	20.13

Source. Field survey, 2015

4. **Analysis and Discussion**

4.1 Results

Mean responses that reflect the extent to which the 22 sample organizations employed management control and other elements of change process appear in Table 3. Note that the mean responses related to the two human

resources control elements of performance appraisal and rewards systems were significantly lower than most other change process elements. Outcomes monitoring was found marginally lower than most other elements. These findings generally support Hypothesis la and suggest that managers tend to employ management control systems to a lesser degree than other elements of change process.

Two tailed test.

Table 3: Comparison of change process means (Two tailed, two sample t-tests
Assuming unequal variances)

		Mean	Std Dev	1	2	3	4	5	6
1	Perf Appraisal	2.06	0.868						
2	Rewards	1.85	0.556ns						
3	Outcome Monitoring	2.31	0.725ns	0.05					
4	Problem Analysis	2.56	0.721	0.05	0.01	Ns			
5	Action Planning	2.77	0.775	0.01	0.01	0.10	Ns		
6	Skill Development	2.55	0.710	0.05	0.01	Ns	Ns	Ns	
7	Communication	2.21	0.835	ns	ns	Ns	0.10	.05	ns

Source. Field survey, 2015
0.01:p,0.10.,0.05:p0.05,
0.01: p , 0.01, ns: non-signifiant.

To test whether the use of management control systems increased as implementation progressed (Hypothesis 1b), the overall sample was split into two groups (Table 4) to reflect different time periods in the implementation process. An 'early' implementation group consisted of 13 organizations with changes ranging from 25% to 68% complete (mean ¼49%). An 'advanced' implementation group consisted of the remaining 9 organizations with changes.

Table 4: Mean levels of change process variables at different implementation levels (Two tailed, two sample t-tests assuming unequal variances)

Variable	'Early' Implementation	'Advanced' Implementation	Difference
Number Organizations	13	9	
%Complete	49	82	1.30
Performance appraisal	2.04	2.07	0.03
Rewards	1.76	1.98	0.22
Outcomes monitoring	2.18	2.61	0.43
Problem analysis	2.56	2.57	0.01
Action planning	2.54	3.09	0.55
Skill development	2.47	2.67	0.20
Communication	1.88	2.69	0.81
Business Results	1.97	2.94	0.97

Source. Field survey, 2015

ranging from 75% to 100% complete (mean ¼ 82%). While the mean management control system response (i.e., performance appraisal, reward systems, outcomes monitoring) was higher for the advanced group, only the difference in outcomes monitoring was statistically significant (p, .10). Thus, marginal support was obtained for Hypothesis Ib's notion that use of management control systems increases as implementation progresses.

To evaluate the relationship between the use of management control systems and implementation outcomes, hierarchical regression analysis was conducted using the business results item as the dependent variable (Table 5). Initial entry of the control variables (Model 1) indicated no significant effects on business results. Next, the

two human resource-related management control system variables were entered (Model 2). The performance appraisal variable entered significantly (b ¼ .456; p , .05). Surprisingly, a minus sign accompanied the regression coefficient estimated for the reward systems variable, although the estimate was insignificant in the overall hierarchical analysis. While the fit of Model 2 was not significant, the percentage of variation explained by this model increased considerably over Model 1 (R¼ .228). Entry of the other management control system variable, outcomes monitoring (Model 3), was significant (b ¼.639; p , .01). The overall model was significant as well (F ¼5.03; p , .01), and reflected a large percentage increase in explained variation (R¼.617). The final two models (Models 4 and 5) reflected the effects of adding other variables of change process. None of these additional variables entered the model significantly and did little to increase the percentage of explained variation.

Table 5: Hierarchical regression results using business results as dependent variable

Variable	Model 1	Model 2	Model 3	Model 4	Model 5
% Complete	0.274	0.270	0.243	0.225	0.252
Change scope	0.218	0.272	0.406	0.533	0.650
Organization size	20.091	0.008	20.080	2.107	20.028
Prev implementation success	0.195	0.224	0.163	0.246	0.301
Experimenting tendency	20.355	20.415	20.258	20.370	20.384
Performance appraisal		0.456	0.405	0.572	0.719
Rewards		20.023	20,250	20,426	20.314
Outcomes monitoring			0.639	0.652	0.534
Problem analysis				20.271	20.164
Action planning				0.064	0.309
Skill development					0.190
Communication					20.325
R^2	0.312	0.498	0.770	0.801	0.844
Adjusted R^2	0.082	0.228	0.617	0.602	0.609
D$AdjustedR^2$	0.146	0.389	20.015	0.007	
F	1.36	1.84	5.03	4.02	3.60

Source. Field survey, 2015

Overall, the regression results support Hypothesis 2 suggesting that a significant relationship exists between the use of management control systems and the achievement of effective change.

4.2 Limitations of the Study and suggestion for Further Study

This study possessed some limitations. The small sample size restricted the researcher's ability to detect significant differences and restrains the generalibility of the findings. Larger, broader samples should be employed in follow-up investigations to this work. Future studies could also improve on the measurement scales employed in this study. Compared to the dozens or perhaps hundreds of variables thought to influence the process of change, the model of planned change was necessarily simplified. Many other aspects of change process might be added to the model to enrich the multivariate texture. For example, climate and culture (Burke and Litwin, 2002) and politics (Tichy, 2003) seem interesting variables due to their potential impact on management control system activities. The single item measure of implementation success could also be expanded to include other dimensions of implementation success. For example, Miller's (2007) scale that combined completion, achievement, and acceptability dimensions of change outcomes might be useful in subsequent investigations.

5 Conclusion and Recommendations

While this study's findings have a provisional tone, the author hopes they elevate theoretical and practical sensitivity about the role of management control systems in implementing planned change. Decentralized,

autonomous structure has long been associated with facilitating innovation and change in organizations (Kelechi,2008). Many organizations have embraced the decentralized concept. Bureaucracies have been shed, decision-making has been distributed, and less intrusive management styles have been encouraged—all so that the organization can become more nimble and innovative.

While perhaps conducive for initiating change, such structure may not support a change's ultimate execution, since decentralized autonomous structure discourages activities such as diagnostic monitoring and other formal controls. Bureaucracy may be necessary for successful change implementation, since formal bureaucratic controls can be effective in dynamic environments where goals and performance standards are unclear and fluid (Oluchi,2001). As scholars become more interested in the notion of paradox in organizational research, the conflict between fast-moving organizational structure and the ability to implement planned change via formal control systems merits more formal attention. From a practical perspective, many organizations may be reaching or exceeding advisable limits for decentralized control (Golden, 2002). Plausibly, lack of bureaucratic structure has rendered some organizations less capable of addressing a significant deviation from plan during implementation a situation almost certain to arise in any planned change initiative. In this direction, we have the following recommendations:

- Management control should focus on positive changes that may bring development to the organization in terms of improved performances.
- Management control principles and theories must be incorporated into the system for predictive and ascertainable developments in organization settings.
- Managers are encouraged to use management control strategies extensively than other elements of change process.
- Management should continue to use control used outcomes and implement success.
- Manager should use behavioural control measures for successful implementation of programmes.
- Many organization should be discouraged in underutilization of formal controls related to outcomes monitoring when managing changes.

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