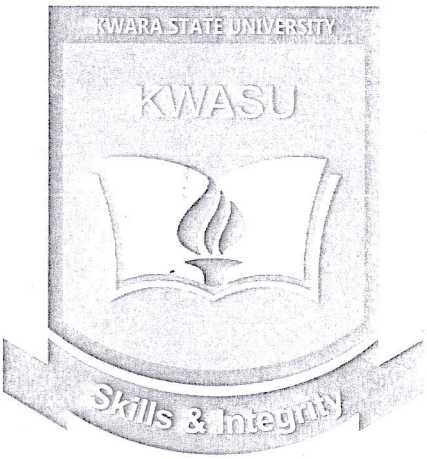
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MANAGEMENT CONTROL SYSTEM AND PERFORMANCE OF SMALL AND MEDIUM MANUFACTURING ENTERPRISES IN LAGOS, NIGERIA

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Abstract
Management control system (MCS) constitutes one of the critical functions of management in organizations. However, little or no attention has been given to design and use of this very important function of management. Many mechanisms or techniques acknowledged to be in use to carry out management control function are limited to accounting-based control techniques which have been criticized to have behavioral dysfunctional consequences such as lack of direction, efforts aversion and other self-interested behaviors. In response to the limitations of accounting control system, the need to broaden the scope of MCS and humanize its role becomes imperative. In view of the foregoing, the study investigated how Small and Medium Manufacturing Enterprises engage in the practice of MCS and its effect on performance. The study employs quantitative method to obtain survey data from randomly selected 262 of small and Medium Manufacturing Enterprises in Lagos State respectively. The obtained quantitative data was subjected Partial Least Squares (PLS-SEM) analysis. The findings of the study revealed that variation in performance of Small and Medium Manufacturing Enterprises (SMMEs) was attributed to four management control mechanisms: compensation ($\beta=0.225, P<0.05$) and Planning ($\beta=0.332, P<0.05$) significantly impact on performance while Policies and procedures($\beta=0.206, P<0.05$) and socio-cultural control($\beta=0.436, P<0.05$)also have significant effect on performance. The study concluded that managers of Small and Medium Manufacturing Enterprises employ some accounting and non-accounting control mechanisms to achieve goal congruence among their subordinates and to a greater extent, the practices impact positively on performance. Therefore, the study recommended that SMMEs should integrate both accounting and non-accounting control mechanisms into the design of their control system architecture.

***Key words**:* Management Control System, Planning, Measurement, Compensation, Organization structure, Socio-cultural, policies and procedures and performance

INTRODUCTION

Management control constitutes one of the critical functions of management in organization. It is used to realize goals congruence between the management and subordinates. As contemporary business activities cannot be carried out by a single individual, the cooperation of employees or subordinates becomes inevitable. Management is therefore expected to perform management control functions using an array of management control mechanisms. Unfortunately, many efforts have been devoted to other management functions and processes leaving management control system at the mercy of itself. Even where attention is given to this very important function, much emphasis is paid to control mechanisms such as budget and other accounting-based control techniques that do not have the capacity to curtail or prevent all causes of management control problems. The less attention given to the design and use of control system in many business settings has far-reaching negative effects such as deteriorated employee morale, impaired business relation, loss of revenue, and fine and penalties to regulatory agencies. This is even more

pronounced in small and medium enterprises that cannot withstand shock of any nature (Hopper, Koga, &Goto, 1999).

Management control problems have been affirmed to induce unethical behaviors ranging from budgetary slack, data manipulation to loss of considerable assets of the business (Marchant & Van de Stede, 2007). Much of these dysfunctional behaviors have been attributed to the emphasis placed on the use of accounting-based control mechanisms, particularly budget. The shortcomings stem from being less concerned with the social and behavioral aspects of the organizational participants (Macintosh, 1994; Otley, 1999; Whitley, 1999).

In response to the limitations of accounting control systems, the need to broaden the scope of MCS and humanize its roles becomes imperative. The expansive MCS contains both quantitative accounting control and non-accounting control systems (Otley, 1999). The non-accounting control system adopts a more comprehensive insight to the control of organization members. It captures the intangible variables such as organization goals, strategies, managerial intentions and employee motivation. These make it richer in terms of information content than accounting system. Essentially, how accounting control components relate to non-accounting controls such as administrative and cultural controls is a serious matter of concern that must be addressed if the attendant problems of inappropriate controls are to be averted. Indeed, much of the organization scandals cited in the literatures have been attributed to lack or inappropriate use of management control mechanisms (Cuguero-Escofet & Rosanas, 2013). Abe (2012) attributed banking and other industrial sector failures in Nigeria to inappropriate use of management control system.

Design of appropriate management control system is very essential to the performance of both large and Small and Medium Enterprises (SMEs). But the delicate nature of SMEs in withstanding shock arises from control problems calls for more concerns. Hopper, Koga, and Goto (1999) argued that a failure to experiment with new forms of controls may be a factor responsible for high failure rate of SMEs. Absolute reliance on accounting control system may not be effective for the attainment of the main purpose of control system identified in literatures. Yet SMEs owners or managers seem not to realize this fact. Accounting control system such as planning, budget and other financial measures are mostly used as decision support system instead of linking them to behavioral usage that qualifies them as part of management control system. Other non-accounting control systems such as organizational structure, governance structure and, procedures and policies and cultural control in the form of well-defined mission and vision statement, regular meeting, group reward system and socialized recruitment procedures are seemingly non-existent or not appropriately used.

The classification of SMEs as a separate category amplifies not only their significance to the economy but also brings out their distinctive characteristics that may require modern management techniques and arrangement such as MCS (Shields and Shelleman, 2016). For SMEs to sustain their relevance as the major driver of any economy, a systematic inquiry into how the fare in the use of management controls may not be out of place. It is against this background that this study investigated the relationship between accounting control system, non-accounting control system, and performance. Specifically, the study tested the individual effect of planning, measurement, compensation, structure, socio-cultural and policy and procedures on the performance of Small and Medium Manufacturing Enterprises

LITERATURE REVIEW

This section focuses on the conceptual domain of key variables used in this study, theories that bear relevance to the underlying relationship between variables as express in the research hypotheses, and evaluation of previous research evidences for the purpose of development of hypotheses.

Conceptual Review

The conceptual domain of the variables used in this study was arrived at through the evaluation of various descriptions given to each of the variables in the literature. In the first instance, management control system has been described or defined in the literatures from different perspective. Malmi and Brown (2008) acknowledge the existence of the varieties and descriptions of management control system (MCS) in terms of broadness and narrowness. Chenhall (2003) broadly sees MCS as entailing Management Accounting System (MAS) but also includes other Non-accounting Controls such as action controls and cultural controls. On the other hand, Merchant and Van der Stede (2007, p8) in their narrow conception of management controls, describe it as dealing with employees' behavior. The authors give assertion relating to this concept as follow: "It is people in the organization who make things happen. Management controls are necessary to guard against the possibilities that people will do something the organization does not want them to do or fail to do something they should do."

In line with the distinction between decision-making and control made by Zimmerman (2001), the authors argue that there are accounting systems that provide information to support decision-making activities and others that direct or influence employee activities. On this note, only accounting system and other mechanisms exist and are used to monitor subordinate managers' goal congruence and behavior should be described as control system, while accounting system which employ managers to support decision making by their subordinate should be described as decision support system. Thus, Malmi and Brown (2008, p. 290) affirm that "those systems, rules, practices, values and other activities management put in place in order to direct employee behavior should be called management controls". Recently, Bedford and Malmi (2015) describe MCS as a set of processes and mechanisms employed by managers to influence the behaviors of individuals and groups towards more or less predetermined objectives. This study aligns with Malmi and Brown (2008) and Bedford and Malmi (2015) descriptions and definitions of MCS.

There are varieties of techniques used to pursue control functions (Bedford *et al.*, 2015). These mechanisms include but are not limited to organization structure, amount of work autonomy and decentralization, standard operating procedures, rule and regulation, performance target (financial and non-financial), emergent target, benchmark, code of conduct, fixed reward, variable reward, bonus and career perspective in terms of promotion. The extensive numbers of control mechanisms identified and described in literature have been specified into different frameworks. Prominent among these frameworks are Ouchi's (1979) Framework for the analysis of organization controls; Simon's (1995) lever of control framework; Otley's (1999) control framework for modern management; and, Merchant and Van der Stedes' (2007) object of control framework. Though not quite recent, Malmi *et al.,* (2008) conducted an extensive review of various management control frameworks that have been used in empirical research on MCS and came up with a more comprehensive MCS framework titled Management Control System Package. The framework consist of five structures: Planning control, Cybernetic/Measurement control, Compensation control, Administrative control and Cultural control. This framework was adapted in this study as later reviewed by Bedford and Malmi (2015). The detail description of each control components is given in the appendix.

Firm performance is another variable of interest in this study. The consequence of MCS in an organization has been identified to include perceived individual job satisfaction, job stress and improved organization performance (Hutzschereuter, 2009). In line with this idea, Chenhall (2003) earlier suggested that the outcome variable of management control system should be in the dimension of managerial or organizational performance. The choice of organizational performance as outcome variable in this study is in informed by an assumption that system affects the behavior of an individual within the organization which then facilitates the organization goal (Otley 1980, p 24).

Venkatraman and Ramanejarm (1986) see business performance as a component or sub-part of organization effectiveness. Based on this perspective, three domains of performance are identified: financial performance, financial & operational performance and organizational effectiveness. Financial performance is the narrowest in scope.
The second domain of business performance is most widely used in the field of MCS research. Indeed, the most widely adopted, Gupta and Govindarajar (1984) measure of performance exemplify this approach. In addition, Brettel's et al. (2005) subjective company performance construct and Miller's (2008) performance construct also fall within the second domain of organizational performance. Using the second domain, data on organizational performance can be obtained through the use of survey instrument (Venkatraman *et al*.1986). For the purpose of this study, organizational performance is defined in the form of growth in sales, volume net profit, market shares, and effectiveness of MCS in terms of guiding, coordinating, monitoring, motivating employees and evaluating employees' performance as perceived by SMEs managers.

Small and Medium Enterprises also need to be clearly conceptualized being another variable of interest for this study. Nigeria's use of asset values and labor size parameters as basis for the classification of SMEs is to some extent in tune with international best practice. In this regard, Fjose, Grunfield and Green 2010 defined and classified SMEs in terms of number of employees. They categorized firm with labor size varying between 1-9 employees as macro firm while with number of employee ranging between 10-50 as small firms. Medium sized enterprise to be a firm with labor size between 50-250 employees. Similarly, the USA business administration (SBA) used the numerical threshold of employees as basis of categorizing SMEs. SBA defined SMEs as independently operated businesses with no fewer than 500 employees (Cfed, 2002). In line with SMEDAN policy of 2007 on micro, small and medium enterprise, SME is similarly classified on the basis of asset value and number of employees. Accordingly, a micro enterprise is described as any business with total asset of less than 5 million Naira and number of employees ranging from 11-49. The SMEDAN policy recognized a firm or enterprise with employee range from 50-200 with total asset value not exceeding N500m but greater than N50m as a medium enterprise. The common trend in the above discourse is that SME is largely defined and categorized on the basis of asset base and number of employees. Therefore to maintain consistency on these common basis and in accordance with the study objective that focus on how MCS are used to influence employee behavior, SME is operationalized using SMEDAN's policy on SMEs definition.

Theoretical Review

The general objective of this study is to offer a comprehensive understanding on how management controls are being used or executed among SMEs managers to monitor and influence employees' behaviors in order to achieve goal congruence. Thus; theories relating to behavioral aspects of control are deemed relevant for discourse in order to give a basis for this study's theoretical framework. These are: Agency Theory and Social Control Theory.

Agency Theory

Agency Theory (AT) fundamentally expands risk-sharing problems among individuals or groups by including the problem that exists when cooperating parties pursue different goals (Jensen & Meckling, 1976). AT gives insight into the problem that might result from separation of decision making and implementation, and how such problem may be resolved (Hutzschenreuter, 2009). AT offers a rich theoretical premise for understanding organizational process and design from principal-agent perspective (Subramanian, 2006). The main goal of agency theory is to offer an explanation about how the relationship between the principal and agent can be designed optimally by offering fundamental assumptions about the parties involved and the organization (Eisenhardt, 1989).These assumptions are self- interests of the agent, partial goal conflict among organization participant and information asymmetry between principal and agent

Consequently, two specific types of agency problems have been identified in the literatures. These are: adverse selection and moral hazard. Gobel (2006) described adverse selection as the problem of not being able to observe agent attributes prior to contracting. In this situation, the principal is unable to determine the capability, the competence and effort that the agent may possess. Macintosh (1994) highlighted a number of suggested solutions to the adverse selection aspect of agency problem. These include: signaling, screening, self-selection and incentive system. All these may be described as forms of management control used in business settings.

Regarding the moral hazard aspect of agency problem, it is a situation described by Jensen and Meckling (1976) as inability of the principal to observe or monitor the performance of an agent directly and that the principal can only assess subordinates or agent's performance based on outcome. As a consequence, the agent pursues his opportunistic behavior different from the principal's main goal. Two methods have also been suggested in the literatures to cope with moral hazard problem: monitoring agent activities by personal contact or information system and incentive system. Potential monitoring device according to Jensen and Meckling (1976) include management accounting and control system. While incentive system entails the alignment of employee interest with the principal through the use of specific contract clause in form of bonus and reward structure.

The associated cost with strategies of mitigating agency problem has been described as agency cost (Subramanian 2006). These costs include monitoring cost, bonding and residual cost. Monitoring costs include external and internal audit costs, investment in governance structures, formal procedures, information system and other oversight processes (these are elements of management control system), while bonding costs are related expenditure that aim at aligning agent's interest with the principal's e.g. bonus incentive. The residual costs are all other costs incurred as consequence of lack of congruence between the principal and the agent. Despite the existence of monitoring and bonding strategies, Jensen and Meckling (1976) argued the existence of trade off relation between the monitoring and bonding cost such that an increase in monitoring activities or cost enhance principal ability to observe and arrest any opportunistic behavior on the part of agent, thereby reduce the need to incur more bonding costs. The key idea and of course prediction of the theory is that a decrease in agency cost i.e. residual cost is favorable and this results in improved organization performance.

Social Control Theory

Hopwood (1976) raised an argument on the limitation of administrative and accounting control device as control mechanism of human behavior. This argument may be attributed to the existence of social

relationship in a group. In effect, the mechanisms resulting from social relationship are the elements of social control theory (Hutzschenreuter, 2009). O'Reilly (1989) asserts that shared pattern of believe and expectation in the group accounts for the development of norms that shaped the behavior of individual and group is the basis of social control process. Turk (1981) is of the view that the effect of social control process tends to influence the individual by ensuring his/her behavior conforms to the group. Hopwood (1976) also argued that a group may exert pressure to the extent that an individual member acts in accordance with the group's shared value. Social control theory is based on key assumptions:

i. there exists in a work place, the necessity of social acceptance and human recognition
ii. Individual members of an organization is expected to drop certain part of his/her norm or values.

Based on the foregoing assumptions, the main idea of social control is that through the social regulatory effect (cultural control), an individual can adjust his/her personal value and belief, learn, adopt and internalize the group value and in effect, identify with the group value (corporate culture). Therefore, the prediction is that individual conformity with shared value (organization culture) is expected to improve motivation and indirectly impact on outcome or performance.

Empirical Review and Hypothesis development

This section reviews previous research evidence on the usage level of accounting and non-accounting control system and their impact on performance which form the basis of this study hypothesis.

In relation to accounting control mechanisms aspect of MCS, substantial studies reveal its effect on firm performance. For instance, Mia (1989) conducted a survey among six companies operating in New Zealand to test the impact of budgetary participation on managerial performance. All six firms in his sample have the same number of employees, between 100 and 1500. His study reports a positive relationship between participation and managerial performance when the level of perceived job difficulty in firms is high. But other studies like that of Dunk (1990) and Van Der Stede (2000) revealed negative relationship between budget use and performance. Dunk (1990) investigated the impact of budgetary participation on managerial performance of organizations in the north of the United Kingdom. He found that higher participation led to lower managerial performance. In another form, Van der Stede (2000) reported evidence of spillover effect of budgetary control style on manager short-term orientation in Belgium and analyzed through structural equation model. The study also revealed that business unit performance and competitive strategy may have effect on the type of budgetary control style and its behavioral consequence. This finding amplifies the limitation of over reliance on accounting control system.

However, other studies have also reported positive impact of budget on performance. Ogden (2005) reported budget commitment on managerial performance. The study revealed that where the role of ambiguity was on the high side, it had an overriding effect on budget commitment than where the manager's was less ambiguous. In addition, budget commitment was reported to have positive impact on managerial performance. King, Clarkson and Wallace (2010) reported evidence of positive relationship between business performance and written budget based on the responses from members of the Australian Association of practice managers. In less developed countries, Siyanbola (2013) reported that budgeting practices or budgetary control practices impact on organization performances. Other research efforts have also investigated the impact participative budgeting has on firm-wide performance, managerial

performance and goal commitment. In this direction, Osama, Mohammed, and Abdulhadi (2013) tested the performance differences of individuals who participated in budget preparation and individuals who do not participate with a finding and conclusion that performance indicators of participating individuals are better than non-participating individuals. Another aspect of cybernetic/measurement control is that of cost control. Oluwagbenga, Adeoluwa, and Zacheaous (2014) investigated the relationship between cost management practices and firm performance in the manufacturing organization listed in the Nigeria Stock exchange and the study showed that a significant positive relationship exists between cost control and performance. On the other hand, Asogwa and Etukafia (2017) conducted a study on cost control practice in Nigerian Public Universities. The study examined the cost control measures and their ability to enhance fund management. The quantitative analysis carried out revealed the weakness in the cost centers but showed a strong significant positive relationship between fund management and cost control measures. Similarly, Akeem (2017) investigated the application of cost controls and cost reduction on performance through a descriptive survey method. The responses from fifty (50) respondents analyzed through regression analysis revealed evidence of significant positive relationship between cost control measures and organization performance.

In relation to hybrid measurement or measure of diversity, empirical evidence showed the impact of usage level of Balanced Scorecard (BSC) on performance in Nigeria. Esther (2013) conducted a study on the usage level of BSC among quoted companies in Nigeria and its relationship with performance. The study revealed that a few prominent companies listed on the Nigerian Stock Exchange use BSC, indicating that performance appraisal system has not been entrenched by the majority and could not been linked to profitability, growth and other performance indices.

Given the insight observed in the foregoing review, one may argue that the measurement control in the form of budget use, cost control and other performance measurement can explain variation in firm performance. Thus, the first null hypothesis is:

$\boldsymbol{Ho}_1$: There is no significant relationship between measurement control and the performance of manufacturing SMEs.

In relation to compensation control, incentive systems are forms of reward and compensation of which research findings have also indicated their impact on performance both at individual and organizational levels. Bhargava (1994) conducted a study on the compensation system on large manufacturing construction and retail firms. The study showed that profit sharing programs have a small positive effect on the financial performance. Hiltrop (1996) revealed the influence of an incentive-based compensation system on product quality and firm performance. Similarly, Yao (1997) revealed in his empirical investigation of 400 state-owned enterprises in China, the impact of incentive system on the productivity growth of the organizations. At the individual level, Bonner & Sprinkle (2002) affirmed the conclusion of Atikson, Banker, Kaplan, and Young (2001) that monetary incentives can serve as method for motivating and improving performance of person using accounting information. Similarly, Oladipo and Adebisi (2008) examined the effect of intrinsic and extrinsic reward on employees' productivity using primary data collected from 280 staff of University of Lagos. The results indicated the existence of positive relationship between workers' productivity and extra reward. Findings from the study carried out by Ude and Coker (2012) also revealed a link between incentive schemes, employee's motivation and productivity in an organization. There is also empirical evidence from qualitative research carried out by Ejumudo (2014) on the impact of pay reward system on staff performance in Delta State. Using a focus group technique, findings showed that the incongruence of pay reward system negatively impacted staff

performance. Although the study of Olanye and Eyela (2015) employed quantitative method, its findings are similar to those of Ejumudo (2014). The researchers used survey data collected from 500 randomly selected employees from 20 randomly selected organizations to show a positive effect of reward system, such as promotion, bonus pay and employee recognition, on employee motivation. A cross country study conducted by Catherine (2016) revealed evidence of variation in productivity of 344 and 237 agricultural scientists in Nigeria and Ghana explained by incentive system. The study developed the second hypothesis in line with the foregoing evidence.

$\boldsymbol{H}_{02}$: There is no significant relationship between compensation and the performance of manufacturing SMEs.

The third hypothesis is concerned with the effect of planning control on performance. Very few studies are available on the use of planning as control mechanisms. Olumuyiwa, Adelaja and Chukwuemeka (2012) examined whether effective planning leads to employees performance in an organization. The results revealed that effective planning has a relationship with organizational productivity and that effective planning leads to employee's performance in an organization. Similarly, Brews and Hunt (1999), Covin, Slevin, and Heeley, (2001) reported the positive influence of planning control on performance. Bedford *et al,* (2015) argued that planning may be used to achieve goal-congruence through the pre-determination of activities and behaviors required to realize desired objectives. Research evidences of Bedford *et al.,* (2015) and Bedford *et al.,* (2016) support the argument. These evidence give insight to the third hypothesis as follows:

$\boldsymbol{H}_{03}$: Planning is not associated with the performance of manufacturing SMEs

Organization structure as a form of non-accounting control system has also been studied to reveal its influence on employee behavior and overall organizational performance. Maduenyi, Oke, Fadeyi and Ajagbetr (2015) conducted an extensive review on previous empirical studies on the impact of organization structure on organizational performance and observed that organization structure, to a large extent, contributes to organization performance. Thomas's (2015) survey study of the effect of organization structure on job satisfaction also show a positive correlation between organization structure and optimum job satisfaction in Nigerian financial sector. Similarly, Shabbir (2016) employed questionnaire survey to test the relationship between organization structure and employee's performance of brewing firms in Nigeria. The result of correlation and t-statistics confirm that nature of hierarchical layers has significant positive effect on employee performance. The study specifically revealed the significant positive effect of formalization on employee performance. Okafor, Kalu and Ozioma's (2017) study of 279 respondents selected from Nigerian manufacturing companies also indicated similar findings that organization structure impact positively on the performance of pharmaceutical firms. The general trend on the role of organization structures as non-accounting control techniques shows that a well-formalized organizational structure affects performance of employees and overall performance of the organization. Thus leading to the development of the fourth hypothesis as follow:

$\boldsymbol{H}_{o4}$: Structure is not associated with the performance of manufacturing SMEs

Organizations may also implement action/behavioral control through the use of feedback system, administrative mode of communication such as work rules, policies and procedures, and company code of conduct (Merchant & Van der Stede, 2007). Munstermann, Eckhardt, and Wetzel (2010) examined the impact of business process standardization on firm performance. The study observed a significant impact on process performance particularly on process time, cost and quality. Merchant *et al.,* (2007) argued that personnel control grounded on employees' natural disposition to motivate or control them. They identified

three major means of implementing personnel control similar to an aspect of administrative control: selection and placement of employee and training and job design with provision of necessary resources. Empirical evidence on these three methods of implementing personnel control are many in the field of human resources management. Recent empirical studies such as: Shonin, Gordon, Dunn, Singh & Griffiths (2014); Kim and Ployhart (2014) and Georgiadis and Pitelis (2016) on personnel control also support the thesis that staff selection and training have direct and interactive influence on firm performance. Furthermore, Fu and Deshpande (2014) examined direct and indirect relationship between caring climate, job satisfaction and organization commitment and job performance. Using structural equation model (SEM), the study showed that caring climate had a significant direct impact on job satisfaction, organization command and job performance. These related empirical evidences provide basis for hypothesis five as follows:

$\boldsymbol{H}_{o5}$: There is no significant relationship between policies & procedures, and the performance of manufacturing SMEs

In relation to cultural control, Merchant *et al.,* (2007) asserted that managers struggle to entrench organizational culture through code of conduct, mission statement, group rewards, and intra-organizational transfers, physical and social arrangements. Studies on corporate culture as an instrument of influencing behavior and its impact on organization performance are not many in recent time. Previous research such as Marcoulides and Heck (1993) examined the effect of organization culture on performance. The study used methodology of SEM to reveal the impact of organization on firm performance. Specifically, evidence on effect of work altitude on firm performance was reported in the study. Similarly, Ogbanna and Harris (2000) conducted a study on an established organization with a finding that dimension and type of organization culture and leadership style significantly influenced performance of a firm. In addition, Xenikou and Simosi (2006) observed a significant relationship of achievement and adaptive orientation to business unit performance. Bart and Baetz (1998) argued that incorporation and acceptance of mission in an organization improve or impact performance. In line with this assumption, Chenhall, Hall and Smith (2008) in their study of social capital and management control found that satisfaction with mission statement, as a means of reflecting norms, value and purposes of organization, was significantly associated with performance.

$\boldsymbol{H}_{o6}$: There is no significant positive relationship between socio-cultural and the performance of manufacturing SMEs

METHODOLOGY

This section detailed the procedures employed to collect, validate and analyze data used to test the study's hypotheses.

Research Design

The nature of the research questions reflects the intent of this study which is mainly to establish and measure the variation in performance of numerous manufacturing SMEs as explained by management control practices. To achieve this, we employed cross-sectional design to obtain quantitative data from randomly selected managers of Small and Medium Manufacturing Enterprises in Lagos. The primary sampling units of this study are the manufacturing SMEs in the sampling frame while the secondary sampling units were four managers in each company. Therefore, determination of the required sample size for the quantitative aspect of the study entails a two- stage procedure. The first stage computed the sample

size from the sampling frame of 450 Manufacturing SMEs and this was done using Taro Yamani Formulae (Yamani, 1964). Based on 95% confidence level, the sample size was computed as 212. The two hundred and twelve manufacturing SMEs were selected using systematic random sampling to achieve high representatives of the elements in the sampling frame and of course high degree of external validity. In the second stage, the four managers of the each randomly selected company were used, translating to eight hundred and forty eight managers (848) secondary and final sampling unit for this study.

However, not all the distributed instruments were returned. As shown in table 4.1 below, 320 questionnaires were returned out of which 262 are valid for the final analysis. This represents 30% response rates. Though relatively low, it was sufficient in comparison with the previous MCS studies such as Widener (2007), Lee and Pennings (2001), Spanos and Lioukas (2001).

Table 3.1: Response Rate Statistics

Description	**Frequency**	**Percentage**
Distributed Questionnaires	848	100
Returned Questionnaires	320	38
Valid Questionnaires	262	30
Response rate		30%

Authors' Computation 2018

The quantitative data was obtained through questionnaire. The questionnaire layout was divided into four sections: A, B, C, D and E. Section "A" focused on the company and respondent profiles. Quantitative data on management control constructs: planning, cybernetic/measurement, reward/compensation, structure, policies and procedures and sociological/cultural was elicited through measurement questions in section B. Specifically scale, measure on seven-point likert scale, developed by Bedford *et al (2015)* with numerous measurements questions from previous studies was substantially adopted in this section since their conceptual domain on management controls was a product of Malmi *et al (2008)* MCS framework. Section E contained questions on the outcome variable (Performance). Five items: financial performance, sales growth, market share and overall performance based on reflective measurement model were used to capture firm performance. All these items were obtained from previous studies of Cao, Gedajlovic and Zhang (2009); Widener (2007) and Govindarajan (1986). Managers were asked to rate the company performance on the five items in comparison with competitors over five years.

The obtained data was subjected to statistical analysis. These statistics includes: descriptive statistics frequency distribution, mean and standard deviation, and inferential statistics: partial least square structural equation model (PLS-SEM). The Structural Equation Model (SEM) is a second-generation multivariate data analysis that examines the relationship which exists among variables under consideration (Haenlein & Kaplan, 2004). It has been adjudged to be useful for the analysis of unobservable, hard-to-measure, latent variables that characterized most of the variables of interest in social and management sciences research. PLS-SEM allows integration of both latent and manifest variable through the specification of two models: structural model and inner model

Empirical Model effect of MCS (Accounting and Non-accounting control system) on firm performance

Although**,** Bedford (2015) assessed the association between management control systems and firm performance of exploratory and exploitation firm, the model is similar to this study's argument, as predicted by agency theory that MCS practice reduce agency cost and thus lead to improved performance. The basic model is stated as follows:

$$PERF = \beta_O + \beta_1 \, Diag_i + \beta_2 \, Int_i + \beta_3 \, Bound_i + \beta_4 Belief_i + \beta_5 \, Diag * Bound_i + \beta_6 \, Int * belief_i + e_i$$

The model was adapted as follows

$$PERF = \beta_O + \beta_1 \, PLAN_i + \beta_2 \, MES_i + \beta_3 \, COMP_i + \beta_4 STRUC_i + \beta_5 \, POP_i + \beta_6 \, SOCU_i + e_i$$

Where; PERF=firm performance/MCS effectiveness; PLAN= Firm's planning control; MES=Firm's measurement Control; COMP=Firm's compensation Control; STRUC= organization structure; POP=Firm's policies and Procedures; SOCU=Firm's socio-cultural control. The a-priori expectation of the model is a positive relationship MCS dependent variable and independent variables. i.e. $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7, \beta_8 > 0$

Measurement of variables

Management Control Constructs

Planning was measured from two dimensions. Mode: development of the long-term ends and means of the firm – ad-hoc, adaptive and emergent, to formalized, deterministic and deliberate (Brews and Hunt, 1999; Mintzberg, 1994); Participation: involvement of subordinates in strategic planning processes (Ketokivi and Castaner, 2004; Shields and Young, 1993).

Measurement is viewed from four dimesions. Diagnostic: Monitoring activity through deviations from preset standards of performance (Simons, 1995); Interactive: Regular involvement in subordinate activities by management to encourage debate, creative behaviors and address strategic uncertainties (Bisbe et al., 2007; Simons, 1995); Cost Control: Financial performance measures of cost efficiency and effectiveness (Kober et al., 2007; Simons, 1987); Measure Diversity: Broad scope and non-financial performance measures (Henri, 2006; Ittner et al., 2003).

Compensation was captured from three perspectives. Performance Pay: Performance-contingent rewards and incentives (Fisher, 1995; Shields and Young, 1993); Subjective/Objective: Method of determining individual compensation – subjective to objective (Fisher, 1995; Govindarajan and Gupta, 1986); Short/Long Term: Time horizon used for individual compensation – short to long term (Fisher, 1995; Govindarajan and Gupta, 1985).

Structure is operationalized through three dimensions: Decentralization: Locus of authority – centralized to decentralized (Abernethy et al., 2004; Gordon and Narayanan, 1984); Communication: Nature, direction and content of communication patterns – mechanistic to organic (Burns and Stalker, 1961; Chenhall and Morris, 1995); Integrative Liaison Devices: Horizontal structural arrangements overlaying traditional functional structures (Abernethy and Lillis, 1995; Galbraith, 1973)

Policies and procedures was operationalized from four dimensions: Autonomy: Work activities conducted in the absence of direct observation or involvement by management (Bruns and Waterhouse,

1975; Kober et al., 2007); Boundary Systems: Statements defining acceptable or unacceptable domains of activity (Simons, 1995); Standardization: Rules and procedures specifying the means of conducting work activities (Daft and Macintosh, 1984); and, Pre-action Reviews: Processes of scrutinization and authorization prior to activity performance (Merchant and Van der Stede, 2012; Speklé, 2001).

Socio-ideological was captured using four dimensions. Selection: Search, evaluation and recruitment of employees according to a set of criteria, such as value alignment (Chatman, 1991; Harrison and Carroll, 1991); Socialization Processes whereby individuals come to appreciate prevailing norms and beliefs in the firm (Chatman, 1991; Harrison and Carroll, 1991); Belief Systems: Statements communicating the basic values and premises for action of the firm (Schein, 2004; Simons, 1995); Social Control: Reliance on shared values, norms and beliefs to direct work activities (Ouchi,1979; Schein, 2004).

Firm performance

Performance was operationalized from two subjective dimensions: Financial and Non-financial performance: extent to which firm is significantly below or above average relative to competitor in the areas of profit, sales growth, market share (Bedford,2015): MCS effectiveness: extent to which the control mechanisms motivate, coordinate, monitor and support subordinate in the pursuit of organization assignment (Kruis,2008).

RESULTS AND DISCUSSION

Preliminary Analysis

Descriptive statistics on both companies' characteristics and respondent's profile are presented in table 4.1 and 4.2 respectively below. The summary statistics of the sampled companies' characteristics in term of age show that 90% of the companies sampled have been in existence for the period of six years and above. The distribution for number of employees reflect similar pattern while for asset value, nearly 76% of the sampled companies operate with asset values ranging from 21 million naira to 81 million naira. These are suggestive of formal organization process that may warrant the use of management control techniques. Similarly, frequency distribution of the respondent profile in terms of discipline indicates 89% are in the area of business management and social sciences. These include Accounting, Economics, Finance and Business Administration .This pattern suggests a tendency of using more management control mechanisms particular non-accounting controls.

Table 4.1: Company's Profile

S/N	**Description**	**Frequency**	**Percentage**
1	**Age**		
	0 – 5yrs	25	9.5
	6 – 10yrs	64	24.4
	11 – 15yrs	59	22.5
	16 – 20yrs	68	26.0
	21yrs and above	46	17.6
2	**No of Employee**		
	1 – 50 employees	25	9.5
	51 – 100 employees	79	30.3

	101 – 150 employees	64	24.4
	151 – 200 employees	64	24.4
	201 and above employees	30	11.5
3	**Company's Asset**		
	10 – 20m	61	23.3
	21 – 40m	61	23.3
	41 – 60m	55	21.0
	61 – 80m	52	19.8
	81m and above	33	12.6

Source: Authors Survey (2020)

Table 4.2: Respondents/Managers Profile

S/N	**Description**	**Frequency**	**Percentage**
1	**Discipline**		
	Accounting & Finance	52	19.8
	Bus Admin.	114	43.5
	Economics	66	25.2
	Art	17	6.5
	Science/Engineering	13	5.0
2	**Qualification**		
	SSCE	8	3.1
	OND	48	18.3
	HND	5	1.9
	BSc	161	61.5
	1st Degree & Professional Qualification	40	15.3
3	**Department**		
	Accounting & Finance	31	11.8
	Production	73	27.9

	Human Resources	102	38.9
	Sales	39	14.9
	Others	17	6.5
4	**Working Experience with Company**		
	0 – 5yrs	74	28.2
	6 – 10yrs	110	42.0
	11 – 15yrs	45	17.2
	16 – 20yrs	21	8.0
	21yrs and above	12	4.6
5	**Cadre**		
	Managing Director	10	3.8
	General Manager	69	26.3
	Senior Manager	127	48.4
	Manager	56	21.5

Authors Survey (2018)

The descriptive statistics for measuring variables used in this study reflect common mean scores ranges from 4 to 5 with standard deviation not above 1.5 suggestive of the existence of the usage of the various component of management control employed in this study (detailed statistics may be provided on request)

Table4.3 presents a Pearson correlation matrix for all the independent variables based on the 262 sampled companies. As revealed in the table, none of the pairwise correlations among independent variables exceed 0.50. Thus, the threat of multicollinearity appears limited (Gujarati & Porter, 2010).

Table 4.3 **Pearson correlation matrix for all independent variables**

	Planning	Measurement	Compensation	Structure	Policy_Procedure	Socio_Cultural	Provider_Capital	Accounting_Control	Non_accounting_Control	Task_Uncertainty	Environ_Uncertainty	Regulatory_Pressure	Associatn_Pressure
Planning	1												
Measurement	.779**	1											
Compensation	.597**	.644**	1										
Structure	.545**	.638**	.632**	1									
Policy_Procedure	.423**	.540**	.456**	.656**	1								
Socio_Cultural	.549**	.608**	.502**	.639**	.572**	1							
Provider_Capital	.001	.179**	.227**	.266**	.257**	.293**	1						
Accounting_Control	.859**	.984**	.730**	.667**	.546**	.628**	.163**	1					
Non_accounting_Control	.588**	.690**	.615**	.888**	.847**	.858**	.315**	.712**	1				
Task_Uncertainty	.288**	.454**	.383**	.559**	.531**	.603**	.304**	.445**	.654**	1			
Environ_Uncertainty	.359**	.484**	.491**	.511**	.555**	.668**	.375**	.497**	.669**	.645**	1		
Regulatory_Pressure	.155*	.200**	.342**	.432**	.229**	.332**	.386**	.225**	.387**	.390**	.422**	1	
Associatn_Pressure	.207**	.323**	.378**	.440**	.277**	.415**	.548**	.331**	.440**	.371**	.486**	.565**	1

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Hypothesis testing

The study employed partial least square structural equation modeling (PLS-SEM) to examine the model on the relationship between MCS component and firm performance. This technique is highly flexible to allow for both manifest and latent variables for which the MCS components under consideration possess. PLS-SEM simultaneously estimates both the measurement and structural models of the variables under consideration.

Assessment of the Measurement Model

One of the basic requirements for the use of PLS-SEM for analysis of data is to assess the measurement quality of the reflective constructs used in a study prior to formal hypothesis testing through structural model of the PLS-SEM. This test was carried out through SmartPLS3. The measurement model involves assessment of reliability and validity. Two tests of reliability-indicator and construct reliability were carried. For indicator reliability, factors loading for all the retained indicators were above the threshold of 0.50 recommended by Chin (1998).Similarly for the construct reliability, all Cronbach's alpha coefficients and Average variance extracted exceed the threshold of 0.7 and 0.5 respectively. In addition, the composite reliability for all the constructs were also above the threshold of 0.7. Overall, the indicators reflect, to a greater extent, the latent variables that they are associated with.

In relation to the validity of measurement model, assessment of content and discriminant validity and convergent validity are essentials. Expert evaluation of the instruments reflected appreciable content validity. For discriminant validity test; criterion of Fornell-Lacker (1981) was used. The Average Variance Extraction (AVE) value of the latent variable was higher than the square correlation of the latent variable (LV) with all other LVs and for every row and column, the value in the diagonal was the highest.

In relation to convergent validity, loadings and cross loadings were examined.All the measurement element below the threshold of 0.5 as suggested by Sanchez (2013) were deleted while all items with loadings above 0.5 retained

Structural Model

In evaluating the structural model of the PLS-SEM, three criteria are involved: The significance of the path coefficient, the coefficient of determination (R^2) and coefficient of prognostic relevance (q^2).The Table 4.25 shows the path coefficients of the model and their respective level of significance. Accordingly, planning, compensation, policies and procedures and socio-cultural controls showed a significant positive impact on the firm performance. The path coefficients of measurement and structure demonstrate no effect on performance as they all not significant at P=0.05.Based on the path coefficient and their significance levels, null-hypothesis one and four were rejected while the remaining hypotheses: two, three, five and six were failed to be rejected. This evidence implies that SMEs use of MCS-Planning and Compensation and MCS-policies and procedures, and Socio-cultural control explained to a greater extent variation in performance of the sampled firms. It is important to stress that due to lack of normality assumption of PLS, the path coefficient's significances were generated from resampling techniques (bootstrapping).

Table 4.4:Significance of path coefficient

Constructs	Coefficient (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Compensation -> Firm Performance	0.225	0.230	0.088	2.573	0.013
Measurement -> FirmPerformance	0.078	0.077	0.093	0.832	0.409
Planning -> Firm Performance	0.332	0.320	0.068	4.882	0.002
Policies & Procedure -> Firm Performance	0.206	0.093	0.066	3.125	0.001
Socio-Cultural -> Firm Performance	0.436	0.423	0.076	5.732	0.000
Structure -> Firm Performance	-0.007	-0.010	0.075	0.090	0.928

Sources: Author's Computation (2019)

The relative effect of each exogenous latent variable on endogenous latent variable was futher assessed through the effect of size(f^2).Based on the Cohen's (1988) guideline for interpretation of effect of size, effect of sizes for measurement control(0.006), and structure control (0.000) were inmaterial, while for the planing (0.043), compensation (0.040),poloicies and procedures(0.50),and socio-cultural(1.57) can be considered to be moderate, indicating that the four control mechanisms effectively explain variation in performance of Small and Medium Manufacturing Enterprises. For the coefficient of determination, the main model yielded $R^2$of 36.4%.Thus, 36.4% of the company performance variance can be explained by the means of Management control.Since the minimum R^2 of 0.10 is acceptable level suggested by Falk and Miller (1992). For the quality of the overall model, prognostic relevance of 14.9 % is suggestive sufficient predictive relevance.

Discussion of Findings

This study examined the extent to which the variation in firm performance can be explained by the adoption of various accounting and non-accounting control techniques: planning, measurement, compensation, structure, policies and procedures, socio-cultural controls. Quantitative evidences reveal the individual impact of each control techniques on performance.

The compensation/reward, an accounting control technique, seems to explain partial variation in firm performance, since its coefficient in the structural model of the PLS was positive and significant with moderate effect size ($\beta=0.225, P<0.05$ and $f^2=0.040$).This implies the subordinate act upon the incentive system to pursue organization goal in a way that enhance goal congruence and effect improve performance of the organization. One may infer that high usage level of both subjective and objective reward system as a behavioral influencing technique has potency to translate to enhanced organization perfomance. This finding is consistent with the evidence of previous studies. Recent works among them were Oladipo *et al.*, (2008), Coker (2012), Ejumudo (2014), Olanye *et al.,* (2015) and Catherine (2016), all reported positive impact of compensation on firm performance. In line with the prediction of agency theory, this finding shows the effectiveness of incentive system in reducing agency problems.

This study also provided evidences on the relationship between planning and firm performance. In a more specific term, investigation on how detail and participative is the planning process to influence subordinate and in effect influence firm performance revealed a significant positive relationship between the two variables (beta=0.332, P less than 0.05, $f^2=0.043$).In essence, the use of planning in a more detailed and participative seem to have potency in enhancing business performance. Thus, one may infer that employees buy into the organization goals and thus are motivated in the discharge of their responsibility. Few available studies on the planning as an accounting controls techniques support this finding: Bedford *et al.,* (2015) and Bedford *et al.,* (2016).

In relation to non-accounting control system, two control elements, Policies and procedures, and socio-cultural were reported to have significant positive relationship with performance. The use of policies and procedures impact positively on performance to a large extent ($\beta=0.206, P< 0.05, f^2=0.050$).This resulted can be interpreted in a sense that the sampled SMEs influence the behavior of their subordinate by allowing them to conduct non-routine activities in a manner that gives sense of independence. In addition, the results also suggest the use of code of conduct to define appropriate behavior, communication of risk and activities to be avoided by subordinates and the extensive use of pre-action review to access project undertaken by subordinate. All these are the sub-control techniques that seem to be in use to warrant the observed relationship between policies and procedures, and performance. The finding is consistent with evidences provided by Davila *et al.*,(2007) and Munster Mann (2010).

As earlier pointed, socio-cultural control also impact positively on firm performance. Out of all the control techniques studies, socio-cultural control has the highest positive impact on performance based on the quantitative results ($\beta=0.436, p<0.05, f^2=0.157$).This implies that the sampled SMEs engage in extensive use of socio-cultural control techniques to drive their goal congruence. By implication, the recruitment and selection procedures seem to be extensively in use as well as other elements of socio-cultural elements such regular training of employees, mission and vision statement and communication of other organizational share values. Comparing this study with previous studies, there exist consistence in their findings as Shoin et al., (2014), Ployhart(2014), Deshpande (2014), Trivellas (2015), Barrick *et al.,* (2015) and Georgiadis *et al.,* (2016) empirical works revealed significant positive relationship between various form of socio-cultural controls and firm performance. By this finding, one may infer that the sampled

SMEs rely more on socio-cultural control in the pursuit of goal congruence. Furthermore, this study's finding conforms to the prediction of the social control theory that individual conformity with shared value (organization culture) is expected to improve motivation and indirectly impact on outcome or performance.

Overall, the predictive relevance and fitness of the structural model as indicated by prognostic relevance (q2) of 14.9% and R-square of 0.364 suggests that use of management control techniques, to a large extent, impacts on company performance. The degree of variation in firm performance explained by management control techniques confirm the prediction of the agency theory and social control theory that as long as the residual agency cost reduces through the use of various control techniques, firm may experience improved performance. This is not to say that other factors do not contribute to company performance since the structural model is partial in nature.

CONCLUSION AND RECOMMENDATIONS

In conclusion, substantial numbers of management control mechanism investigated do explain variation in performance of the sampled SMEs. The use of planning to develop strategy and monitor employees has capacity to influence the performance of small and medium manufacturing enterprises. Performance of small and medium manufacturing enterprises is driven to a greater extent by the use compensation and reward system relative to subordinate performance. The use of standardized procedures, codes of conduct, appropriate action and pre-action review to monitor and influence subordinate drive firm performance. Use of extensive recruitment and selection procedures as a socio-cultural control technique considerably has effect on the improved organization performance. Communication of core value through codified formal document, mission and vision statement contribute positively to the performance of the sampled firms. The study therefore recommends the combined use of accounting and non-accounting control system as tools to sustained goal congruence of employees of small and medium enterprises particular manufacturing business.

However, caution must be taken in general in relation to these findings to other sectors and across the continent. In view of this, further studies on MCS practices of SMEs in other sectors and across the continent would enhance expansive findings on the practices of MCS.

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