# The application of performance management systems framework in public healthcare: evidence from a field study

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## Abstract

Several studies in different countries have focused on performance management in public healthcare services, including the impact of new performance management systems (hereafter, PMS) and how the design of PMS has yielded unintended consequences. This paper examines the application of performance management systems framework in public healthcare services. Ferreira and Otley's (2009) performance management framework was used to analyse the data. The empirical findings of the study demonstrate that the vision and mission of the studied organization were clearly stated and communicated to employees. Also, evidence indicates that NSH's PMS composed of loosely coupled elements. Our analysis shows lack of involvement of subordinates in the strategic process and the absence of specific performance targets. Furthermore, our finding reveals the existence of biasness in performance rating. A key research implication is that the PMS framework adopted can be meaningfully used to generate insights into performance management issues in public sector healthcare organizations.

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## 1. Introduction

This aim of this paper is to explore the application of performance management systems (PMS) framework in public healthcare organizations. Under the New Public Management (NPM), performance management (PM) has become the main channel through which public officials explain and justify their behaviour and report on outputs and outcomes (Van Dooren et al. 2015). It has been argued that performance management promotes the goal of improving performance through the careful planning of performance measures, integrating them into the managerial process, and using them to enforce responsibility for actions and outcomes (Mizrahi and Minchuk 2019; Arnaboldi et al. 2015). However, research has shown that the presumed benefits remain questionable and that there are many barriers, challenges and problems in implementing PM (Holzer et al. 2019; Ballard 2020).

The health sector is one of the major governmental sectors that have faced numerous changes due to the implementation of NPM. The health sector reforms in many countries have focused on structural change, cost containment, the introduction of market mechanisms and consumer choice (Simonet and Katsos 2020; Alonso et al. 2015). Thus, public healthcare organisations in many countries are striving to manage the widening gap between increasing service demands and their constrained resources, at the same time as seeking to improve their quality of care and public health generally (Mesabbah and Arisha 2016; Simonet 2018). Hence, PM has become a tool to optimise the efficiency and effectiveness of service delivery in healthcare. Extant studies have examined performance management issues in health services, either investigating PM practices (e.g Kennedy et al. 2019; Paulino and Daniel 2016; Silva and Ferreira 2010), or the challenges of implementing PMS (Conrad and Guven-Uslu 2012; Hewko and Cummings 2016; Mahapa et al. 2015; Kim and Kang 2016; Smith 2002; Simonet 2018; Uddin et al. 2020). Yet, while we know the practices of performance management and the existence of the challenges of implementing PMS, we still know little about the application of

PMS framework in public healthcare in Nigeria. The aim of this paper is to address this gap in our knowledge.

The paper draws on performance management systems framework which was developed by Ferreira and Otley (2005, 2009). It proposes twelve key areas to consider in understanding the structure of performance management within organisations. The framework has already been successfully applied within the healthcare context (Paulino and Daniel 2016; Uadiale 2018; Uadiale et al. 2019) to examine the structure, operation and use of PMSs in an holistic manner. It assists in documenting the PMSs of both for-profit and not-for-profit organizations, to both describe their operation and to go on to explore the underlying reasons for such control configurations. By using this framework in the context of public healthcare services in a developing country, we expect to generate valuable insights into key performance management issues in the case organisation, as well as gain an understanding of its suitability in public sector organizations.

A case study of a state-owned hospital was conducted. A total of 32 participants were interviewed from different hierarchical positions with relevant academic, administrative, and managerial experience, and archival data were used. Overall, our analysis reveals that NSH's PMSs composed of loosely coupled elements which could trigger imbalance between the positive and negative forces within the control systems. This study contributes to the literature by adding to the limited body of research examining performance management systems in public healthcare organizations. It also contributes by demonstrating the usefulness of Ferreira and Otley's (2009) framework in examining performance management issues within public sector organisations and opens an avenue for future research to use this framework. The paper is organised as follows. Section 2 presents a review of the literature, which includes contributions from the NPM literature, healthcare services, and performance management literature. It also includes a section on Ferreira and Otley's (2009) framework. Section 3

describes the research method used in this study. Section 4 discusses our empirical study. Section 5 provides an extended discussion of the findings and the concluding remarks of the study.

## 2. Literature Review

### *2.1 New public management*

Over the past two decades, the ideas of New Public Management have attracted significant interest and attention of policy makers, practitioners and academics around the world (Steccolini 2019; Hood 1991, 1995). The foundations of NPM emanated from the changes experienced by the public sector in the United Kingdom during the 1980s. NPM ideas were later embraced by other developed countries such as the United States of America, New Zealand, and Australia. NPM emphasizes professional management, the introduction of explicit measures of performance, a focus on outputs and private styles of management practice, leaner and better government, decentralisation, empowerment, customer satisfaction and better mechanisms of public accountability, partnership between the state, the private sector and civil society organisations in different activities (Tallaki and Bracci 2019; Pollitt and Bouckaert 2017; Hood 1991).

NPM reforms have been applied to health care because funding for health care is a growing expenditure in most developed states, due to technological progress and an aging population (Connell et al. 2009; Simonet 2015; Acerete et al. 2011). The public healthcare sector differs in structure, availability and governmental influences across nations (Curristine et al. 2007; Malmmose 2012). Hence, the implementation of NPM in public healthcare has revealed several differences in perception, application, usage and knowledge, which has resulted in various dilemmas and paradoxes of NPM, particularly the conflicts between opposing core values such as service quality treatment and financial objectives (Malmmose 2012). Therefore, it has been

argued that the consequences and effects of introducing NPM vary depending on the context and setting in which the healthcare system operates.

Extant literature has assessed the impact of NPM in healthcare services (Simonet 2014, 2015; Connell et al. 2009). For example, Simonet (2015) notes that the application of NPM in the British health care sector increasingly bear legal and moral obligations. However, he argues that NPM adoption did not bring an end to socioeconomic disparities and opportunism, as there is still plenty of room for opportunism and cost-shifting in health care. Connell et al. (2009) argue that NPM claims are a fallacy and that nursing and nursing care have been affected adversely and severely in Australia. It was reported that the general management structures have replaced established nursing management structures and the distance between politicians and health service managers has narrowed to the extent that there is now an unprecedented level of political interference in the daily management of health services, which is contrary to the tenets of NPM. Alonso et al. (2015) find that there was no evidence that NPM hospitals are more efficient than traditionally managed ones. It was argued that what actually matters may be the management itself, rather than the management model. On this basis, the aim of this paper is to show the conditions under which the application of PMS framework enables healthcare organizations achieve efficiency in service delivery.

*2.2 Performance Management System (PMSs) studies on healthcare organizations*

A number of studies have focused on the application of PM framework in health services, while others have investigated PM practices and the impact of new PMSs. Researchers have also assessed the impact of PM instruments in health services (Mesabbah and Arisha 2016; Paulino and Daniel 2016; Conrad and Guven-Uslu 2012). For instance, Paulino and Daniel (2016) investigate PMS in the Portuguese public primary healthcare and conclude that the framework contributes to a better understanding of the performance management tools implemented in

primary healthcare. Mesabbah and Arisha (2016) review the application of the Health Service Executive (HSE) Performance management framework in Irish Hospitals and Emergency Services and conclude that the PMSs is not adequately linked with strategy as well as the Irish public hospitals' management systems. Using Otley (1999) performance management framework, Silva and Ferreira (2010) examine PM practices in three primary healthcare services. Their study finds that PM practices in the healthcare services lacked consistency and coherence. It was also found that the healthcare organisations lacked direction and experienced difficulties in motivating their staff. In addition, it was noted that vertical controls were very weak, and accountability was limited, contributing to a lack of goal clarity, and ultimately affecting performance.

In their study on UK health sector performance management, Conrad and Guven-Uslu (2012) examine the impact of a new performance management system imposed from a distance by regulatory bodies on the English Hospital Trusts. The study integrates structuration and institutional theories in order to understand how practices are institutionalised or changed at three levels, emphasising the crucial role of agency in structuring organisational and institutional practices. The study reveals the potential for conflict, crisis and unintended consequences in organisations where instrumental approaches are adopted. Smith (2002) assesses critically the performance management instruments introduced into the British National Health Service. The study demonstrates that the bewildering array of managerial instruments introduced into the NHS does constitute an intellectually coherent system. However, it is argued that to maximize the effectiveness of the new arrangements, careful attention must be given to implementation and capacity issues. Propper et al. (2010) examine whether high profile targets to reduce waiting times met their goals of reducing waiting times without diverting activity from other less well-monitored aspects of healthcare. The study finds

that targets led to a fall in waiting times without apparent reductions in other aspects of patient care. Similarly, Mason et al. (2012) evaluate the effect of the mandated Emergency Department (ED) care intervals in England. Using fifteen acute hospital trusts' ED data, it was reported that the introduction of a time target reduced the proportion of patients staying greater than 4 hours. More patients departed within 20 minutes of the target 4-hour interval after the mandate, notably, the elderly.

Using a provincial hospital in Zimbabwe, Mahapa et al. (2015) assess the challenges face in the implementation of performance management systems. The findings revealed that the organization uses the Results Based Management (RBM) system as its performance management tool. The challenges identified include lack of motivation, lack of knowledge, insufficient human and financial resources, difficulties in identifying performance indicators and that there was no link between performance gaps and training programs. It was noted that these challenges have impacted negatively on service delivery. The study recommends further training on how RBM is implemented and that resources should be made available for effective implementation of PM. A study by Lutwama et al. (2013) examine the implementation of performance management of healthcare workers in order to propose strategies for improvement. The findings show that to some extent performance management is implemented in the health sector; however, there were loopholes in its implementation. It was found that there were inadequacies in setting performance targets and performance management planning was hardly done. In addition, the findings revealed that although many healthcare workers had job descriptions, the performance indicators and standards were not clearly defined and known to all workers and managers. Further, it was reported that the schedules for performance assessments were not always adhered to. Also, there were limited prospects for career progression, inadequate performance feedback and poor reward mechanisms. By examining

the application of performance management systems framework in healthcare services in Nigeria, this study intends to contribute to the performance management literature.

*2.3 Ferreira and Otley's framework*

Ferreira and Otley (2009) propose a performance management framework to understand the structure of performance management systems within organisations. The framework reflects a shift from the traditional compartmentalised approaches to control in organizations to a broader perspective of the role of control in the managing organizational performance. Ferreira and Otley (2009, p.268) highlight the following 12 areas to consider in the development of a PMSs within organizations: vision and mission, key success factors, organization structure, strategies and plans, key performance measures, target setting, performance evaluation, reward systems, information flows, systems, and networks, PMSs use, PMSs change and strength and coherence (See appendix 1).

A number of studies have drawn on the earlier version of Ferreira and Otley (2005) PMS framework to explore PMS in organizations and considered it to be very useful (Collier 2005; Stringer 2007; Merchant and Otley 2007; Otley 2008). Stringer (2007) observes that the framework makes the interconnections between the different components of the PMSs explicit. Further, Merchant and Otley (2007) note that the PMS framework offers a useful checklist of issues to be considered in a comprehensive analysis of control systems. Similarly, it is argued that the framework offers a logical structure to enable the identification of the various components of a PMS as well as the links among those components (Otley 2008). Recent studies drawing on Ferreira and Otley's (2009) PMS framework acknowledged that the framework provides an understanding of the functioning of PMSs and appropriate in exploring PMS both in for-profit and not-for-profit organizations (Uadiale 2018; Paulino and Daniel 2016; Wadongo and Abdel-Kader 2014; Yap and Ferreira 2010).

## 3. Research methods

This paper adopts qualitative research methods to explore PMS in a public healthcare service. It is based on a case study one of the foremost teaching hospitals in West Africa in terms of the high-quality services rendered by highly skilled professionals using state-of-the-art equipment. Case study not only provide a better and holistic understanding of the context, but also allows the researcher to examine the behavioural effects of PMSs in the complex and interactive environment in which PMS actually exists (Yin 2017; Cooper and Morgan 2008; Smith 2017). The evidence presented in this paper was collected using semi-structured interview and document analysis. The flexibility and comparability of semi-structured interviews facilitate free flowing conversation and assist the researcher to focus on the objective of the interview (Silverman 2013; Bryman and Bell 2015). The participants of this study were assured that the results would be presented in such a way that the statements could not be attributed to specific individuals (Creswell 2018). Interviews were conducted between March and September 2015. Each interview lasted averagely between thirty minutes and one hour. A total of 32 open-ended semi structured interviews with NSH staff from different hierarchical positions with relevant academic, administrative, and managerial experience were conducted. Respondents were purposefully selected from the various departments in the organization which included directors, head of departments, nurses, doctors, accountants, and administrative staff. The interviewees were directly involved in making decisions concerning performance management in the organization. All ethical considerations were duly observed and communicated to informants. To reinforce the interview data, the study relied on public published documents such as annual performance reports (health sector), policy documents, news clippings and other articles appearing in the mass media or newspapers. These documents provided salient insights into the evolutionary tendencies of the studied organization. As mentioned by Yin (2017) documentation is a great source of evidence because it is stable unobtrusive, specific and has a

broad coverage. Thus, documentary evidence provide data on the context within which research participants operate. The use of documents results in both obtaining new information and to corroborate and augment evidence from the interviews. The quality of the documents were evaluated using the four criteria advocated by Scott (1990) namely: authenticity, credibility, representativeness and meaning. Ferreira and Otley's PMS framework was used to analyse case evidence. Narratives were developed around each component and quotes were used to provide a range of alternative views that emerged from the transcripts. Rival explanations were examined, and plausible explanations provided.

## 4. Empirical study

This section begins with an overview of the Nigerian healthcare system, which provides the background of the case study. We then use the twelve areas of Ferreira and Otley's (2009) performance management framework to outline the evidence collected for the organization studied.

### *4.1 Overview of the Nigerian healthcare system*

The Nigerian constitution of 1999 (as amended in 2011) recognises health as both a precondition for, and an outcome of sustainable development (FMOH 2018). Thus, the constitution places health on the concurrent legislative list, thereby placing responsibility for healthcare delivery and its management on the three tiers of government - Federal, State and LGA. Healthcare is provided by public and private sectors. Public health services are concurrently the responsibility of the three tiers of government. Primary, secondary, and tertiary level of care are the responsibility of the local government area, state government and federal government, respectively. Besides, tertiary health care provision, the federal government manages the implementation of disease specific programs at all levels. The private

sector provides close to 60% of health service delivery, in spite owning an estimated 30% of health facilities.

The enabling legal and policy frameworks for Primary Health Care (PHC) revitalization include the National Health Act (NHAct) 2014; National Health Policy (NHP) 2016 and Health Financing Policy and Strategy 2017; The 2nd National Strategic Health Development Plan 2018-2022 (NSHDPII) will operationalize the NHAct2014 and the NHP2016. The government established the Basic Healthcare Provision Fund (BHCPF) to finance and manage the implementation of PHC revitalization as a means for achieving Universal Health Coverage (UHC). The act calls for allocation of at least 1% of the Consolidated Revenue Fund (CRF) in the national budget to capitalize the BHCPF so as to finance and manage the PHC revitalization agenda. The PHC revitalization targets to make 10,000 PHC Centres, at least 1 PHC per electoral ward, functional by 2020. These reforms have focused on the overall development of a modern, efficient, and effective healthcare delivery system that guarantees the productivity and wellbeing of all Nigerians.

However, the World Health Organization (2018) reported that Nigeria's health outcome indicators are still unacceptably high, in spite of modest improvements. Maternal mortality ratio is 814 per 100 000. Mortality rate for infants and children under five years is 70 and 104 per 1000 live births, respectively. Mortality attributed to household and ambient air pollution is at 99 per 100,000 of the population. Communicable diseases still constitute a major public health problem: Malaria accounts for 27% of global burden; Tuberculosis prevalence is at 323 per 100 000; HIV/AIDS prevalence is estimated at 3.2%. Malnutrition is common with stunting rate at 43.6%. Non communicable diseases (NCDs) burden including hypertension, diabetes, and neurological disorders are on the rise. Road traffic accidents are significant, while alcohol

consumption and tobacco use are exceptionally high at 9.1% and 17.4% in 2015 and 2016, respectively. In addition, a significant disparity in health status exists across states and geopolitical zones as well as across rural/urban divide, education, and social status. Based on these evidences, it can be inferred that efforts at strengthening the health system have not had the desired effect. Hence, the need to examine how the application of PMS framework can enhance service delivery of healthcare organizations in Nigeria.

*4.2 Case organization*

To maintain anonymity the case organization is termed the Nigerian State Hospital (NSH). NSH emerged from a modest cottage hospital which was established by the old western regional government to provide healthcare services for the people living in its environment. The cottage hospital later metamorphosed into a full-fledged general hospital which served as a secondary level healthcare facility. The need for a tertiary healthcare facility for the training of doctors and other allied healthcare professionals to provide high quality clinical services led to its upgrade from a general hospital to a modern, well-equipped centre armed with the state-of-the-art equipment teaching hospital. In 2001, the state government officially converted the general hospital to the NSH. Despite its upgrade to the NSH, the peculiarities of the state in terms of the size of its population, diverse ethnicity, commercial activities, and infrastructure posed peculiar challenges for the hospital. This observation prompted the state government to implement the Health Service Reform (HSR) Law (2006) which approved the establishment of a governing board of the NSH leading to the decentralization of its activities and granting it autonomy with the Ministry of Health retaining oversight functions. In the second quarter of 2007 the Health Facility Monitoring and Accreditation Agency (HEFAMAA) was established and charged with the accreditation and regulation of all public and private health facilities in the state.

The NSH was selected for this study because it is one of the foremost teaching hospitals in West Africa in terms of the high-quality services rendered by highly skilled professionals using state-of-the-art equipment. It is the youngest but fastest growing tertiary hospital in the country. Yin (2017) suggested that researchers should choose a case study that can maximise what can be learnt. Therefore, conducting this research in the case organization presents an opportunity to understand the extent to which the framework applied for the study provides explanations on the various components of the PMS. Also, NSH was selected for this study, taking into consideration its location (urban area and the state's capital) and size. Location has been documented as a key performance factor, to the extent that health organizations located in rural areas typically face difficulties attracting and retaining qualified staff (Okyere 2018). Size has been used in previous research as a significant factor because it is related to the complexity of organisational structures (Silva and Ferreira 2010) and, consequently, the type of performance management practices used. Convenience in terms of location accessibility was considered, but this factor played a secondary role and we do not think it caused any obvious bias in the study. Therefore, it is assumed the notable position of the NSH in Nigeria in relation to service delivery and users' coverage will assist in capturing various aspects of its control systems.

*4.3 Findings*

Vision and mission: The vision and mission of the NSH aligned closely with the states' health policies which is to attain excellence in health service delivery using appropriate technology. The director indicated that NSH is committed to excellent service delivery by applying best practices at all levels of care in order to ensure a healthy state. One of the heads of department stated that: *"the use of latest technology has enhanced the delivery of excellent healthcare services".* Similarly, the head of health information management department claimed, *"the provision of quality care services that ensure patients' satisfaction requires continuous*

*innovative research and education".* One of the administrative staff identified the organization's vision and mission as evident in the following statement:

> "We are driven by the objective to deliver excellent service to increase patients' satisfaction rate thereby creating a friendly environment for staff and patients".

Our analysis suggests that NSH's vision and mission reflects the health sector's policies possibly based on procedural guidelines issued by the Ministry of health (MoH). The implication is that employees may not be enthusiastic in achieving them. The following comment supports this argument:

> "…ownership of the mission and vision statements is of importance to employees of any organization…once the staff are involved in their formulation; they get committed and ensure successful implementation*".*

Key Success Factors (KSFs): The responses from the interviewees regarding the key success factors revealed broad and ranging views on what such factors were in the NSH. KSFs identified include recruitment of qualified allied and healthcare professional and infrastructure and equipment upgrade. While these factors did not seem to contradict the overarching objective of the organization, they appeared to be more diverse than expected. Our analysis suggests that NSH pursues two areas of competencies to ensure its success. The first was recruitment of qualified allied and healthcare professionals, which was the responsibility of the Health Service Commission (HSC). One of the directors stated:

> "NSH does not recruit healthcare workers on its own. It notifies the Health Service Commission (HSC) of the areas of need. The HSC is statutorily responsible for recruitment, deployment, promotion, discipline, staff welfare and professional development matters amongst others".

Another director noted that to provide the best healthcare, we present staff request to HSC to ensure that our staff are available in the right numbers with the right skills, values, and competencies to deliver effective patient-centred care. For example, the first successful kidney transplant was carried out by our team of urologists and nephrologists.

The second factor which drives the organization's success was investment in infrastructure and equipment upgrade. It was reported that the organization has benefited from the state's government continuous investment through phased rehabilitation, equipping and/or upgrading of existing health facilities and the construction of new ones. Various projects are being implemented with the objective of enabling the hospital to achieve its goal of been in the forefront of contemporary and tertiary healthcare delivery with respect to her statutory functions of research, training, and clinical service delivery. The evidence suggests the possibility that NSH has consistently led game-changing developments in healthcare through latest technology and innovative skills.

Organization structure: NSH's organization structure reflects the varying levels of administrative controls with clear lines of reporting and accountability. We observed that the structure empowers individuals to act within the sphere of their responsibility. However, one of the administrative staff opined that:

> "Having a formal structure is good; however, it is important that decision-making in the organization should not be limited to the management team".

In terms of the relationship between organization structure and the strategic management process, there was no evidence to support possible relationship because the NSH simply implement the state's health strategies as indicated by the supervisory ministry. In sum, organization structure is a key factor that influences the achievement of organizations' goals and objectives as the authority relationship determines the way the employees work.

Strategies and plans: Interviewees noted that they were not involved in strategic formulations but implement the programmes highlighted in the state's health strategic plan to achieve the deliverable outcome. For example, one of the directors noted that:

> "…with respect to priority area 2 (health services delivery) one of the programmes earmarked to achieve this strategic objective was universal access to essential package of care".

This suggests that the NSH simply followed the strategies and plans formulated by the ministry of health. Our analysis suggests that strategies and plans were generated and defined centrally by the ministry of health as enunciated in the State's Strategic Health Development Plan (SSHDP) 2010-2015. These are formally communicated at ministerial press briefings and through policy documents.

Key Performance Measures/Indicators (KPM/KPI): KPIs were set by state government for ministries, departments, and agencies (MDAs). The KPIs define successes and track progress in meeting the state's strategic goals. In particular, the KPI's incorporates evaluation and monitoring of health programmes and projects towards achieving stated objectives. This is consistent with the following statement made by a nurse in the department of family medicine:

> "KPIs reflect state's health strategy. Though the organization is not involved in the collation and development of KPIs, we are obliged to follow the prescription provided in the compendium"

However, specific information/data on KPIs used in the organization could not be established as they were integrated with those of other health services in the state. Thus, it was difficult to establish the actual use of KPIs in the NSH.

Target setting: Targets were set by the MoH on various priority areas of healthcare service delivery in the state. This suggests that there were no defined targets for each hospital in the state and the NSH was no exception. A doctor explained that:

> "The organization simply contributes to the overall achievement of the health targets for the state. For example, we provide vaccination for pregnant women and children thereby reducing maternal, under-five and infant mortality rate".

In addition, a nurse in the paediatric department noted that "lack of specific targets for the hospital makes it difficult to measure its contribution towards state's health target". In sum, the target-setting process at NSH was driven by its regulatory organisation (i.e. MoH).

Performance evaluation: The states' human resources (hereafter, HR) policies prescribe individual performance evaluation. Interviewees identified performance parameters as quality and timeliness of work produced, communication and interpersonal skills, professional standards/creativity and innovativeness, enthusiasm, and responsiveness; leadership/supervisory or managerial skills. This suggests that individual performance targets are operational in the organization. However, there were views that some superior officers are biased in performance ratings. The following comment captures the views of interviewees on performance rating biasness:

> "Some supervisors provide higher ratings to subordinates with same political, religious, family or cultural affiliation."

This above comment is consistent with the following statement made by one of the nurses when asked to comment on performance rating:

> "Some employees who felt that they have not been appropriately rated during assessment have left the organization resulting in high turnover and loss of human capital which is detrimental to achieving the organization's objectives."

Reward systems: The HR policies identified the guidelines and procedure of the reward system observed in the case organization. Interviewees noted the importance of reward systems in organizations. One of the doctors noted that a reward system is necessary to evaluate performance when there are pre-set performance targets, particularly individual performance targets. This remark was consistent with the view expressed by one of the administrative staff who indicated that: "the existence of a reward system in the hospital would make staff become more motivated and then more productive in their work". In sum, a reward system is evident

in the NSH which suggests that the NSH recognises staff capabilities and competencies in enhancing employees' performance at work.

Information flows, systems, and networks: The evidence suggests the provision of feedback on staff performance and service delivery for learning purposes and corrective actions. One of the directors noted:

> "Employees are provided feedback on their performance through the appraisal form annually. Areas needed to be corrected or improved are highlighted to prevent poor performance in the future".

In addition, information flows from employees to management and vice versa particularly in relation to the enhancement of service delivery. Also, the evidence revealed that information flows from employees to head of departments. In relation to systems and network, the state government has a standard operating system, office applications and other software running on all hardware at any particular time. As indicated by the head of information and communication "…there is a standard and uniform operating system running on the servers. Uniform migration is carried out when there is a new release in version or service pack across all platforms". A director also noted that the centralization of the state's information systems was to ease the management of system resources and deployment of security measures.

Performance Management Systems (PMS) Use: The use made of information and control mechanisms seem to revolve around budgeting system in the public sector. In NSH, PMS use was diagnostic. This was visible with regards to the use of remedial action to correct deviations from budget estimates. A director explained that:

> "...where procurement is proposed at 'X' thousand naira in the budget…we would check, is it being spent? If not, why not? Are there variances in budgeted and actual amount? What remedial measures do we need to take to avert future occurrence?"

Similar views were expressed by one of the accountants, who noted that the actual budget performance is used to review previous year's performance. Subsequently, reports are generated on observed deviations and reasons for such discrepancies established and remedial actions taken. There was no evidence of interactive use of information and control mechanisms in the studied organization.

Performance Management Systems (PMS) Change: In relation to PMS change, the findings revealed two events that have altered the way the NSH operates and have resulted in changes in its management control techniques. One is the implementation of the Medium-Term Expenditure Framework (MTEF) which resulted in the adoption of a new budgeting system - performance-based budgeting system. This was confirmed by one of the accountants, who indicated that the implementation of MTEF resulted in the introduction of performance-based budgeting system which allows some flexibility in managing the hospital's resources to pursue sector objectives and implement sector policies efficiently. The second event is the introduction of the oracle Enterprise Resource Planning (ERP) software. One director noted that:

> "The software is useful in data capture and effective deployment of the capabilities to enhance the accounting recording and reporting systems of the hospital".

A director commented on how the accounting systems of the NSH have changed with the introduction of this financial software. From the above, it can be argued that the observed change relates to the implementation of a new control technique and not the PMS.

Strength and Coherence: The findings revealed the need for alignment and coordination between the different components for the PMS to deliver efficient and effective outcomes. For example, NSH has succeeded in making clear its vision and aligning the various strategies with its operational program. However, we find that subordinates were not involved in the strategic process. Also, specific performance targets were absent. In addition, there was biasness in

performance rating. The implication is that if individual components of the PMS appears well-designed, but do not fit well together (either in design or use) control failures can occur.

## 5. Discussion and conclusions

Our reflections on each of the areas of the framework provide additional noteworthy insights. The existence of vision and mission in the NSH is an indication that they are fundamental requirements for control purposes. This finding is consistent with prior studies that vision and mission statements are critical in the design and use of PMS (Akbar et al. 2015; Johanson et al. 2019). There appeared to be consistency in employees' views about the vision and mission of the organization which aligns with the state government health priority.

Our analysis of the KSFs appeared to be more diverse than expected. In particular, it shows that the NSH acknowledges the importance of recruiting highly qualified medical team and innovative human resources to render excellent services. The findings support previous literature. Cunningham et al. (2019) suggest that managing human resources in healthcare involves organising groups of workers with different professional backgrounds, skills, grades, qualifications, expertise, and experience to achieve optimal patient care. In addition, we observed that the organization has acquired various specialised-medical equipment in pursuant of excellent service delivery.

The NSH's structure enhances functional specialization of tasks and responsibilities, however, decision-making in the organization is limited to the management team. It has been argued that when employees are gainfully engaged in the decision-making process it enhances creativity (Presbitero and Teng-Calleja 2019). Thus, the existence of a hierarchical and formal structure which lacks the involvement of subordinates could result in low job satisfaction and ultimately high staff turnover.

Health strategies and plans were generated and defined centrally by the ministry of health in consonance with the state's health priority/agenda. This raises the question of strategy implementation and of implementation defects, which may occur. The NSH employees are not involved in the planning process but they simply implement the programmes highlighted in the strategic plan to achieve the deliverable outcome. This illustrates a limited use of strategic voice in the NSH particularly with regard to overall strategic directions. It can be argued that because employees and managers are not involved in strategic planning, lower understanding of the strategic intent and lower job satisfaction could result (Sloan 2019).

The health sector's KPIs align with the NSH's objectives and KSFs. The KPIs assist in reporting budget impact on the lives of the citizens to ensure that resources are efficiently channelled to achieve the service delivery targets. This finding is consistent with prior studies that performance measures are derived from objectives, KSFs, and strategies and plans (Lucianetti et al. 2019; Endrikat et al. 2020). Therefore, the lack of KPIs tailored to track NSH's success suggests that the full performance potential of NSH is not being realised.

Targets were set by the state's health ministry and there were no defined targets for NSH. This suggests some sort of imposition of state's health target on the NSH. As indicated in prior literature targets imposed on organizations by superior bodies or imposed on staff by senior executives are unlikely to be achieved (Taylor et al. 2019). Also, with the lack of specific targets, it would be unlikely to generate the desired motivation and performance effects (van der Kolk et al. 2019).

Individual performance evaluation was undeniably present at NSH. However, there were views that some superior officers are biased in performance ratings. This evidence is consistent with prior studies which reported that biases often influence the supposedly objective ratings a manager gives an employee during an appraisal (Davis 2011). No departmental performance

evaluation process was found in the NSH, which was not unexpected, since this was consistent with the practice in the public sector of Nigeria.

Our analysis of the reward system suggests that the NSH recognises the need to motivate individuals to align their own goals with those of the organization. This corroborates the findings of Benson and Lasisi (2019) which highlight the importance of rewards system in recognising individual talents, strengths, capabilities and competencies thereby enhancing employees' performance at work.

Information flows, systems and networks draws our attention to the use of a number of communication channels in the NSH which supports the development of a sense of direction at the NSH. It has been argued that having a range of information flows assist in mitigating the control problem of lack of direction (Merchant and Van der Stede 2007; Kakkar et al. 2020). This is likely to be improve the effectiveness of the NSH's PMS.

Performance management systems use were diagnostic and visible in relation to budgets. We find that budgets were compared with actual in order to establish variances for subsequent corrections. It appears that diagnostic use represents a negative force, especially as it focuses on mistakes and negative variances. The implication of this is that such absence could result in imbalance between the positive and negative forces within the control systems.

Our analysis of performance management systems changes shows two events that altered the way the NSH operates and have resulted in changes in its management control techniques. The two events are the implementation of the Medium-Term Expenditure Framework (MTEF) and the introduction of the oracle Enterprise Resource Planning (ERP) software. We find that NSH simply implemented new control techniques, therefore, there was no change in its operation of the PMS.

The final area of the framework focused on strength and coherence which draws our attention to the links between the components of PMS and the way in which they are used. Vision and mission are clearly stated and communicated to employees. This indicates that the level of commitment of the NSH to the communication of its vision and mission is high. However, we find evidence to suggest that NSH's PMS composed of loosely coupled elements. For example, the lack of involvement of subordinates in the strategic process could also have implication on job satisfaction which could potentially create issues for the PMS in terms of direction.

In conclusion, our field study of a secondary healthcare service unveils a disjoint performance management system. Our analysis also shows lack of involvement of subordinates in the strategic process and the absence of specific performance targets in the organization which is unlikely to generate the desired motivation and performance effects. In addition, the existence of biasness in performance rating could also influence the effective functioning of the PMS in the organization. Further, there was no evidence of interactive use of information in the organization which could trigger imbalance between the positive and negative forces within the control systems.

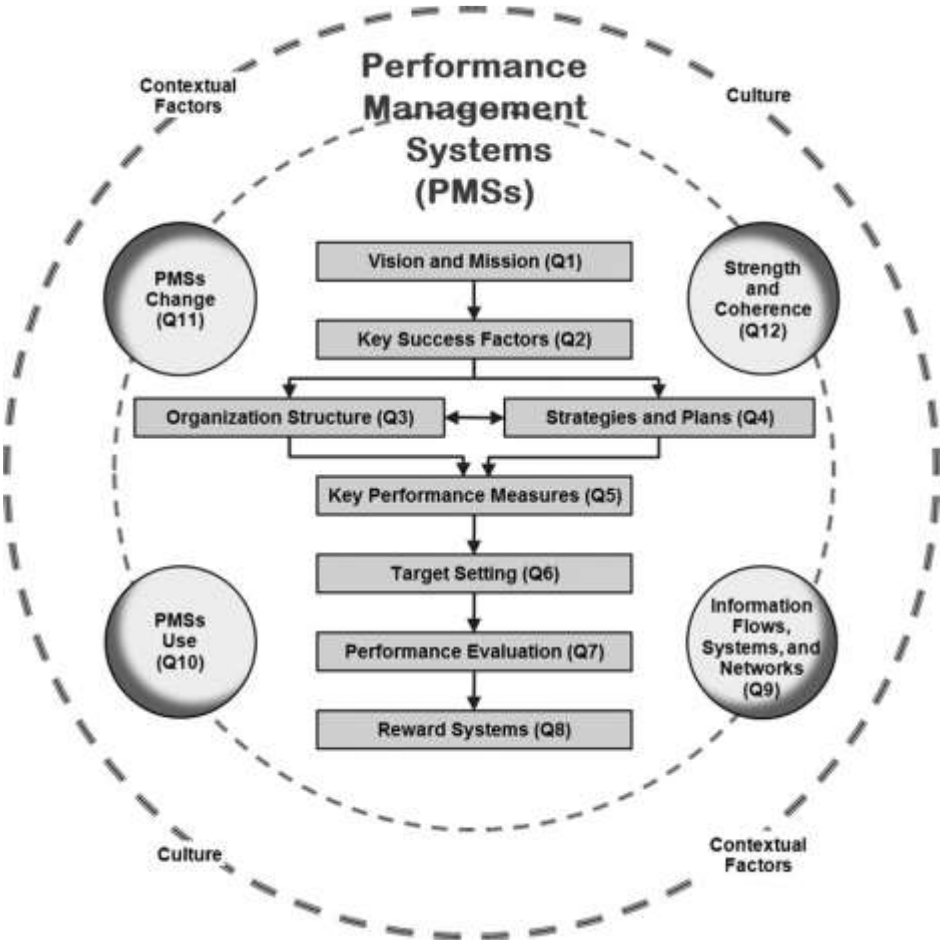
This study contributes to the relatively small but emerging empirical body of research on performance management in healthcare from developing countries context (for example, Mahapa et al. 2015; Lutwama et al. 2013). As far as the researcher is aware, to date, no prior research study has applied this framework within the healthcare setting in the context of Nigeria. Though, there are a few white papers, professional reports and newspaper articles that are available on this topic in the context of Nigeria. This is the first comprehensive study on the application of PMS framework in Nigeria. In addition, the study demonstrates the usefulness of Ferreira and Otley (2009) PMS framework in highlighting key aspects of performance management in healthcare in Nigeria. By using this framework, the study documents key aspects of the PMSs in the case hospital and highlight the reasons for the

maintenance of such control configurations. Further, the use of the framework in the Nigerian healthcare service has drawn attention to areas needing improvement in service delivery in order to support economic growth and development.

As with all studies, this study has its limitations. First, the focus of this study on generating valuable insights into key performance management issues in the case organisation potentially ignored the role of people as agents in the implementation of performance management systems. Although the narratives gathered from the case organization have provided explanations on the operation of the key aspects of the PMS, yet there is a possibility that people influence and shape PMS in use in their organization[4]. Second, the research relied on empirical data from one healthcare service. As such the findings may not be used as a generic piece for all the healthcare services within the health sector. Nevertheless, the studied organization is not unusually different from other public healthcare services in other parts of the country hence the insights from the study are likely to be relevant when examining similar healthcare services. There is a possibility that more than one case organization would have provided additional or different insights. In our opinion, the above limitations do not invalidate the substance of this study's findings and contributions. Future study could focus on the role organizational actors (agents) in constructing and interpreting PMS in use in their organization.

[4] It has been argued that in an attempt to derive meaning from the world, people develop and impose their own ideologies and structures, including PMSs. Hence, PMSs do not exist outside the conceptualisation of individuals.

**Appendix 1 - Performance Management Systems Framework (Ferreira & Otley 2009)**



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