

Predictors of strategic procurement performance metrics adoption in county governments: empirical evidence from Kakamega county government, Kenya

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Abstract

Purpose – Amidst the scarcity of resources, it is undisputable that an effective public procurement performance measurement system (PMS) is required particularly in county governments, especially for Kenya to realize its ambitions in devolved governance system. County governments cannot be effectively evaluated on their performance if the long-term, strategic impact of public procurement processes and projects is not captured. Arising from this backdrop, this study aims to determine the predictors of strategic procurement performance metrics (SPPM) adoption in public procurement PMS of county governments.

Design/methodology/approach – Anchored on institutional theory and public sector scorecard model, a survey research design was adopted where data were collected through census from 115 respondents working in procurement, finance and stores department of Kakamega county government. Data were collected using questionnaire (75.56% response rate) and key informant interviews, and analyzed by using multiple regression model and ordinal logistic regression models.

Findings – Multiple regression model and ordinal logistics regression revealed that national government support negatively and significantly, and regulatory framework positively and significantly affects the adoption of SPPM.

Practical implications – There is need for formal mechanism that will enable the national government in partnership with the council of governors to be proactively involved in developing procurement performance measurement capacity of county governments. This study's findings also provide suggestions for a working regulatory framework required for the adoption of SPPM by county governments.

Originality/value – This work adds value to the prevailing body of knowledge on public procurement PMS in the public sector.

Keywords Public procurement, Performance measurement, County governments, Regulatory framework, Metrics, Kenya

Paper type Research paper

1. Introduction

Performance measurement system (PMS) plays an integral role of assessing the effectiveness and efficiency of various governance strategies and policies. Without an effective PMS, it is



practically impossible to drive continuous improvement in governance process. Although input and output metrics are the commonly used in performance measurement, these metrics cannot be used to capture the long-term impact of public procurement. This is because public procurement processes and projects exude long-term socioeconomic and political effect. In his article, *Can public procurement make society better?* Choi (2013) argued that public procurement can alleviate inequitable distribution of resource and climate change through socially and environmentally responsible procurement. Other studies have shown that public procurement processes and projects affect real household income, job opportunities, industrialization, political stability, foreign direct investment, quality of life and crime rate among others (Appelt & Galindo-Rueda, 2016; Morton, Paget, & Mena, 2013; Uyarra & Flanagan, 2009). For instance, purchase of common items such as office stationery for use in one public office has broader impact that spans beyond the immediate user department. By acquiring such goods through a fair procedure, the confidence and trust of the public in government increases, promoting political stability. Paying the supplier of the stationery in time ensures business continuity which increases the purchasing power of the employees whose salaries are paid in time. Thus, strategic procurement performance metrics (SPPM) are required to measure this ripple effect of public procurement.

With this knowledge, developed countries are committed to measure and report the long-term effect of public procurement processes and projects. In United States, for instance, the federal government is committed to measuring the effect of centralized purchasing of all its federal agencies on provision of healthcare services and crime prevention through police service (Performance.gov, 2020). The results are reported on a nationwide platform called [performance.gov](https://www.performance.gov) every two months. In New Zealand, the government requires all public procuring entities to measure and report how their procurement activities are contributing to the realization of its economic goal of increasing real household income by 40% by 2025 (OECD, 2019). The United Kingdom requires every government agency to formulate innovation procurement plan indicating how it will promote innovation in its procurement processes and projects (Dawar & Oh, 2017). In Italy there is 150/2009 regulations that mandate the local government to establish strategic and operational performance metrics, specifically singling out specific metrics to be monitored and reported (Patrucco, Luzzini, & Ronchi, 2016). So, at global level, both the national governments and regulatory framework directly require government agencies, including subnational governments to report on long-term impact of public procurement.

In sub-Saharan Africa, and Africa as whole, public procurement is the main spender of national budget (about 50%) (Dawar & Oh, 2017), yet it is the least evaluated and monitored on its long-term effect. A majority of performance metrics utilized in public procurement in African countries focus on activities rather than its outcomes (Fourie & Malan, 2020). The use of activity-based performance metrics has concealed poor performance in Africa's public procurement system. That is why power outages, shortage of essential medicine and supplies in public hospitals and high rate of unemployment among youths are never linked to poor public procurement system (Kamau, van Biljon, & Arnolds, 2020; Blimpo & Cosgrove-Davies, 2019). In Kenya, county governments take more than five years to clear their bills with suppliers, some of whom have very constrained working capital like SMEs (The Office of Controller of Budget, 2018). It is estimated that 62.1% of all county government public infrastructural projects such as roads, markets, health facilities and bridges experience time overruns (Mohamed, 2017). These are projects which can spur economic development and improve the quality of life at county government level if completed on time. Corruption in public procurement is feral, with Ethics and Anti-Corruption Commission [EACC] (2018) reporting that it adds 10–20% to the total contract cost, yet none of this is linked to political unrest experienced every electioneering year. To unravel all the inadequacies of public

procurement systems, especially in county governments, it is important that activity-based metrics be complemented with SPPM.

The national government through the ministry of finance and the national assembly has tried to address this problem by developing guidelines on monitoring and evaluation at county government level. This includes the county government performance management framework that was developed in 2013, the county integrated monitoring and evaluation system (CIMES), developed in 2019, [Public Finance Management Act \(2012\)](#) and [County Government Act \(2012\)](#). However, these initiatives have not availed much with president, since 2018 finding it necessary to compel county government to clear pending supplier bills before the next financial year. While a number of studies have been done on performance measurement, many of them focused on general performance measurement in local government without a particular focus on public procurement. A few that addressed public procurement performance measurement system (PPPMS) dwelt more on its composition ([Patrucco et al., 2016](#)) and implementation ([Anane & Kwarteng, 2019](#); [Muriuki & Odari, 2018](#)), while the aspect of quality of metrics was not adequately addressed. Arising from this backdrop, this study intended to determine the predictors of SPPM adoption in PPPMS of county governments.

2. Literature review

2.1 Conceptualization of key terms

2.1.1 Performance measurement. Existing literature has attempted to make a distinction between performance measurement and performance management, but many studies have continued to use the two terms interchangeably. Performance measurement is a key component of performance management system, since the latter cannot function without the information generated by the former ([Goh, 2012](#)). The difference between performance measurement and performance management stem from utilization of information ([Goh, 2012](#); [Bennett, Lance, & Woehr, 2014](#)). Whereas performance measurement is concerned with generation of data through quantitative and qualitative assessment of inputs, outputs and outcomes of organization's activities ([Bennett et al., 2014](#)), performance management is regarded as the utilization of performance information to improve organizational outcomes ([Maestrini, Luzzini, Maccarrone, & Caniato, 2017](#)). Performance measurement is also defined as the process of evaluating the progress toward realizing set goals, providing information on the efficiency of transformational process from inputs to outputs, the quality of outputs in terms of their ability to satisfy customers and the quality of outcomes, and the extent government operations contribute to achievement of program objectives ([Pidd & ProQuest, 2012](#)). This study focuses on performance measurement as a critical component of performance management, and adopts the definition by [Pidd and ProQuest \(2012\)](#) because it outlines different types of metrics such as input, output and outcome measures.

2.1.2 Public procurement. [Public Procurement Asset and Disposal Act \[PPADA\] \(2015\)](#) defines public procurement as procurement of goods, works and services by procuring entities using public funds. This definition implies that private entities can engage in public procurement as long as public funds are being used, hence not limiting public procurement to public contracting entities. [OECD \(2020\)](#) slightly misses this element by defining public procurement as the acquisition of goods, services and works by government and state-owned entities, hence putting the focus on the government entities and not public funds. This study adopts the definition postulated by the [PPADA \(2015\)](#), since the focus is on the use of public funds.

2.1.3 Public procurement performance metrics. Public procurement performance metrics in this study can be categorized in two broad categories; activity-based and strategic performance metrics.

(1) Activity-based procurement performance metrics

In relation to public procurement, activity-based or traditional performance metrics comprises of input and output metrics. [Chen, Huang, Yu, and Hung \(2017\)](#) define input metrics as indicators that assess the efficiency of production process. This study defines input metrics as measures that quantifies the resources consumed, time taken to produce certain quantity of output and activities carried out. In public procurement, input metrics include number of procurement orders processed per staff per particular period of time, number of contracts awarded through open tendering, number of procurement staff training carried out among others ([Public Spend Forum, 2016](#); [OECD, 2019](#); [Phillip, 2018](#)).

According to [Gray \(2017\)](#), output metrics are measures that show proof of execution. On another hand, [Podgorski \(2015\)](#) believes that output metrics are indicators that provide information on the progress of individual processes within the organization on real-time basis. Output metrics that are used in public procurement are concerned with comparing the actual outputs with planned outputs ([Chen et al., 2017](#)). This comparison occurs over a range of issues including procurement procedure used, supplier(s) sourced from, quality achieved, price paid among other transactional metrics ([Hofmann, Maucher, Kotula, & Kreienbrink, 2017](#); [Maestrini et al., 2017](#)). Cost saving resulting from price reduction is one of the common output metrics reported in public procurement ([Patrucco et al., 2016](#)). In line with [Gray \(2017\)](#), this study defines output metrics as indicators that proof execution of certain tasks, hence showing their inadequacy to be singularly relied upon.

(2) SPPM

[Okes \(2013\)](#) relate strategic performance metrics with strategic goals of the organization over a long period. This thinking is amplified by [Ross and Lam \(2015\)](#) who elaborates that strategic performance metrics assesses the performance of institutions against its goals and policies. This study uses the term strategic performance metrics to refer to performance indicators that assess and identify the performance of the organization against its long-term strategic goals. According to [Phillip \(2018\)](#), SPPM need to focus on procurement outcomes and impact.

[OECD \(2019\)](#) defines procurement outcomes as consequences of consumption or lack of consumption of a service, while [Phillip \(2018\)](#) defines procurement outcomes as the realization of specific public service. For instance, if the purchase of breast cancer screening machine was to increase early detection of breast cancer, then the realization of early detection is an outcome. This study adopts the definition by [Phillip \(2018\)](#), since it emphasizes on the realization of a specific service. Other general examples of public procurement outcome metrics will include availability of public services (healthcare, education and electricity), access to government procurement opportunities by women, youth and persons with disability among others.

Procurement impact refers to long-term downstream effects of public procurement spending which may include improved community lives and improved market competition ([Phillip, 2018](#)). [Gebczynska and Brajer-Marczak \(2020\)](#) define impact metrics as measures of lasting improvement encountered by the society. For instance, purchase of cancer screening equipment can lead to early detection and treatment of breast cancer (outcome), resulting in reduced mortality and increased life expectancy among women and men (impact). Similarly, when SMEs win public procurement tender, the outcome may be to provide public goods. The long-term impact will be empowered SMEs which can produce more, hence creating more new job opportunities. Therefore, impact metrics measures the long-term effect of procurement process and projects on the society.

2.2 Performance measurement in public sector

Performance measurement in public sector has received wide attention from various scholars. The existing literature has examined the topic at national and local government

level, and in state parastatals. The extant literature underpins that it is basically used as a tool to measure performance, hence fostering accountability and transparency in governance. However, at the same time, there has been confusion as to whether public sector needed performance measurement or performance management (Gao, 2015; Striteska & Spickova, 2012). It is observed that there has been shift from performance measurement toward performance management (Gao, 2015), many studies emphasizing on the need to manage performance rather than just to measure it. Other studies have found performance measurement an important aspect of performance management. Nonetheless, all these debates are fuelled by the ongoing need to reform public sector management centered on the new public management model.

In regards to the performance metrics used in public sector PMS, the extant literature identifies various models of measuring performance. Gao (2015) conducted literature review and identified two broad classes of metrics; objective and subjective metrics. The objective metrics are independent of the opinion of developers and can be relied upon to assess the true progress of government entity. Subjective metrics are developed in terms of surveys to measure citizens' perception about public sector performance (Gao, 2015). Gebczynska and Brajer-Marczak (2020) literature review found two models used in performance measurement in public sector namely 3Es (economy, efficiency and effectiveness) and IOO (input, output and outcome) models. The 3Es model was found ineffective since it emphasis on economy and efficiency may compromise the ability to achieve quality outcomes by trying to minimize costs. Similarly, the 3Es model is fragmented and there is no direct and logical chain of one metric to another. The IOO model overcomes the weaknesses of 3Es model by providing a logical chain of resources and activities required to achieve certain outputs, outcomes and impact (Gao, 2015; Hartley & Fletcher, 2008). Balance scorecard model (BSC) has also found its way in public sector, particularly being used to measure both the financial and the nonfinancial indicators (Gao, 2015; Gebczynska & Brajer-Marczak, 2020). The use of BSC model is preferred due to its ability to measure strategic goals of the organization. However, its weakest point is overemphasis on profits which does not apply in the public sector and according to Striteska and Spickova (2012) it seeks to control instead of improving performance.

The overall finding of the existing literature is that public sector performance has not improved even with PMS in place (Gao, 2015; Goh, 2012; Moynihan, 2006). According to Patrucco *et al.* (2016) the performance indicators used in public sector are not holistic to drive improvement in performance. A study by Goh (2012) suggested that poor implementation of performance measurement was the key reason for its ineffectiveness. He identified three contextual factors required to improve the implementation of performance measurement in public sector. These factors are stakeholder involvement, a learning organizational culture and managerial discretion (Goh, 2012). Moynihan (2006) also identified lack of stakeholder involvement and robbing of managerial discretion as key reasons for failure of public management reforms in the USA to achieve the desired results.

2.3 Performance measurement in public procurement

An effective PPPMS ought to measure four key areas according to OECD (2019) namely efficiency, transparency, professionalism of the procurement staff and supplier performance. Public Spend Forum (2016) categorizes this into two large groups; outcomes and critical practices. The outcomes can range from social, economic and political outcomes, while critical practices refer to institutional capabilities such as professionalism of the procurement staff that makes it possible to achieve the outcomes (Public Spend Forum, 2016). Therefore, whatever metrics public entities use, it is important that they cover the key areas identified. Public Spend Forum (2016) advises the adoption of a standardized PPPMS rather than standard metrics that ensure all the key outcomes and critical practices are measured.

For instance, purchase of cancer screening equipment (output) can lead to early detection and treatment of breast cancer (outcome), resulting in reduced mortality and increased life expectancy among women and men (impact). A real example is the United States federal government category management performance measurement. One of the long-term public procurement goals of the US Government is to improve category management by consolidating procurement contracts for common-use goods and services across all its federal agencies (Performance.gov, 2020). In 2020, the federal government had a target of realizing savings of US \$ 18 billion by eliminating 50,000 duplicative contracts and 300% variation in price when purchased by each federal agency (Performance.gov, 2020). The goal is owned by two individuals from two different procuring entities required to report the progress on the US government website called [performance.gov](https://www.performance.gov) every three months (Performance.gov, 2020). Apart from cost savings (output), the category management is evaluated on its ability to timely provide goods and services (output) that law enforcement and medical professionals require to effectively carry out their roles (outcome) (Performance.gov, 2020). Provision of security and healthcare services can have varying impact including reduced crime rate and improved life expectancy.

In the Kenyan context, performance measurement in the government is guided by the National Integrated Management and Evaluation System (NIMES) and County Integrated Management and Evaluation System (CIMES) (GoK, 2019). Both NIMES and CIMES provide that input, output, outcome and impact metrics should be included in monitoring and evaluation system. However, these guidelines are general to entire performance measurement at government level. As a result, public procurement performance measurement is simply done at procurement department level with little effort to measure its effects at national or county government level. Counties such as Kakamega, utilize SPPM at procurement departmental level. The Public Procurement Regulatory Authority is in the process of developing a public procurement monitoring and evaluation policy and framework. Its 2019 draft emphasize on compliance and performance metrics.

3. Theoretical review

The guiding theory for this study is institutional theory and it is complemented by public sector scorecard (PSS) model. Institutional theory asserts that institutional pressure plays a significant role in development and adoption of formal structures in the organization (Teeroovengadam, Nunkoo, & Dulloo, 2019; Powell & DiMaggio, 1991). As such, organizations are willing to adopt new ideas if such innovative ideas are legitimized by their institutional environment. Once an innovative idea is legitimized by the institutional environment, it may become irrational not to adopt it, or the institutional environment may make it a legal mandate for all organizations to adopt it, since doing so enables the organization to attain or sustain legitimacy in its institutional environment (Furusten, 2013). Therefore, these institutional pressures lead to organizational isomorphism, where organizations within the same institutional environment adopt similar practices (Teeroovengadam *et al.*, 2019; Dubey, Gunasekaran, & Ali, 2015).

Three institutional forces can lead to organizational isomorphism, for instance county governments to adopt similar PPPMS (Greenwood, 2012; Peters, 2019). These institutional forces are (1) coercive isomorphism, coming from the government and regulatory environment, (2) mimetic isomorphism, copying successful competitors or peers, and (3) normative isomorphism that emanate from ability to adopt the new organizational structure (Peters, 2019; Greenwood, 2012). According to Gimzauskiene and Kloviene (2011) the choice and contents of PMS depends on the institutional environment.

Based on this argument, the institutional theory is used to explain why organizations operating under similar environment tend to look the same in terms of organization

structures, facilities and products among others (Teeroovengadum *et al.*, 2019). One of the major reasons postulated by the theory for adoption of certain practices is coercive isomorphism. Powell and DiMaggio (1991), define coercive isomorphism as the external pressure organization encounters in its operational environment to operate in a certain manner. Such external pressure when met to all organizations in the same industry or sector will cause them to adopt similar structures, which make them look the same (iso). Teeroovengadum *et al.* (2019), adds that it may be important for the organization to yield to such pressure since it may affect its legitimacy.

County governments operate in an environment where they are always under pressure to do things in a certain way. Such external pressure emanates from electorates, national government, regulatory framework, donors and other international partners. Studies in other countries have shown that national government, and legal framework affects performance measurement and reporting in subnational governments (Brusca & Montesinos, 2016; Fahlevi, Nuzulla, & Basri, 2018). As such, this study anchored on the institutional theory, attempted to examine the effect of national government support and legal framework on adoption of SPPM in county governments in Kenya.

While the institutional theory makes great strides in explaining forces that lead to adoption of certain practices in organizations (Khor, Udin, Ramayah, & Hazen, 2016), it fails to account for effectiveness of implementation which ultimately affect the success of adoption. This may explain the reason why some organizations are successful in adopting certain practices, while others facing same institutional pressures fail. The study therefore incorporated PSS model, which elaborates on the appropriateness of public sector PMS.

PSS model developed in 2002 by Max Moullin has proven to be a useful model that has extended the concept of the balanced scorecard to the public and third sectors. PSS model is “an integrated strategy mapping, service improvement and performance measurement framework, incorporating strategy mapping, service improvement, and measurement and evaluation,” (Moullin, 2017, p. 442). The PSS model as shown in Figure 1, identifies that performance measurement in public sector should be carried out at three levels of organization entailing organizational capability, processes and outcomes, hence emphasizing on the need to have nonfinancial performance metrics. Capability entails

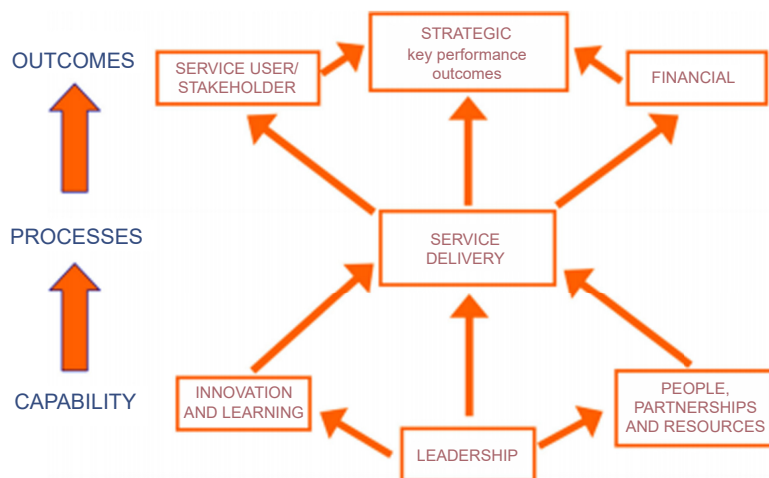


Figure 1.
Public sector
scorecard model

Source(s): Moullin (2017)

what the organization requires to support its employees in achieving its outcomes (Moullin, 2017). The capabilities are listed as innovation and learning; leadership and people, partnership and resources. Therefore, public institutions need to adopt tactical performance metrics to evaluate their organizational capability (Huy & Phuc, 2020).

According to PSS model, organizational processes that deliver the actual service experienced by users and stakeholders, should also be evaluated using operational performance metrics or input and output metrics (Phillip, 2018; OECD, 2019). The processes lead to outcomes which are divided into three categories, namely, service user or stakeholder outcomes, strategic key performance outcomes and financial outcomes (Moullin, 2017). This help to distinguish the different types of performance metrics required and put particular emphasis on the need to include strategic performance metrics in a public organization PMS. In a nutshell, PSS model, argues that an effective public PMS ought to have metrics that measure capability, processes and outcomes of the organization (Moullin, 2017). Furthermore, all the metrics must be aligned with the strategic goals of the organization, in a way that outcome indicators will cover both the service users, and the financial effect of a process or a project (Moullin, 2017).

3.1 Empirical review and hypotheses development

The role of national government in affairs of devolved or local governments is something that has elicited mixed reaction from researchers. The logic of devolved unit of governance is to empower the locals to drive their development agenda (Brusca & Montesinos, 2016). Consequently, the critics of national government getting involved in local governance believe that it robs power from the people to drive their agenda (Brusca & Montesinos, 2016). On the other hand, proponents argue that national government ought to be involved to provide major thematic areas of development which the local governments can help to implement (Cawley, 2016). In this manner, the national government ought to develop a national performance management system with specific standardized metrics to be used at local governments to promote learning and sharing of good practice (Phillips, 2018). Also, the national government can provide support through making performance measurement and reporting compulsory capacity building of county government staffs in PMS, and developing a nationwide database for performance measurement benchmarking among county governments (Eliuz, Kapucu, Ustun, & Demirhan, 2017; Patrucco *et al.*, 2016).

A cross country comparative study by Brusca and Montesinos (2016) in Europe and North America exposed that local government performance measurement and reporting was a compulsory requirement from the national government in Australia, Canada, Norway, Denmark, Sweden, the Netherlands, the United States, the United Kingdom and Finland. In Norway, Sweden and Denmark, there is a set of national indicators which local government must use in the performance measurement (Brusca & Montesinos, 2016). One of the most important findings of Brusca and Montesinos (2016) study was that in countries where performance reporting was compulsory, such as New Zealand and the United States, outcome metrics alongside input and output metrics were used compared to other countries where local government performance reporting was only guided by regulations. Similar findings were also reported by Fahlevi *et al.* (2018) and Patrucco *et al.* (2016).

A study by Eliuz *et al.* (2017) found that there was a positive relationship between external support from national government and effectiveness of performance measurement at municipal governments. However, direct effect of external support on effectiveness of performance measurement was found to be statistically insignificant with 1% variation in standard deviation in external support leading to only 2.4% increase in effectiveness of performance measurement. In turn, Eliuz *et al.* (2017) concluded that external support did not directly influence the effectiveness of performance measurement at municipal government

level even though it exhibited positive relationship. [Eliuz et al. \(2017\)](#) findings and conclusion are contradictory to other studies by [Brusca and Montesinos \(2016\)](#) and [Fahlevi et al. \(2018\)](#), which found that central government involvement and support directly led to the adoption and utilization of strategic performance metrics. However, [Akbar, Pilcher, and Perrin \(2015\)](#) study added a different perspective to this argument revealing that compulsory performance measurement was the driving force behind performance measurement and reporting in Indonesian local governments. However, [Akbar et al. \(2015\)](#) did find that such coercive approach did not improve performance measurement and reporting at local governments. In this manner, [Akbar et al. \(2015\)](#) depart from earlier findings to show that making compulsory performance measurement does not necessarily improve the process.

The extant literature has proved that the national government can indeed support local governments in implementing effective PMS ([Eliuz et al., 2017](#); [Brusca & Montesinos, 2016](#); [Fahlevi et al., 2018](#)). Secondly, that this support can come in various ways including participating in establishing performance metrics, influencing the choice of performance metrics, technical capacity building, requirements on performance reporting for instance making performance reporting compulsory and enacting legislation to guide performance measurement and reporting at local government ([Eliuz et al., 2017](#); [Brusca & Montesinos, 2016](#); [Fahlevi et al., 2018](#)). However, the results appear to be contradictory since [Eliuz et al. \(2017\)](#) reported that there was no direct relationship between external support and effectiveness of PMS at local government; yet other studies ([Brusca & Montesinos, 2016](#); [Fahlevi et al., 2018](#)) reported a direct positive effect, making the findings inconclusive. Furthermore, given that all the studies reviewed focused on general performance measurement in subnational government and not the adoption of SPPM, this hypothesized that.

- HA1.* Making performance measurement and reporting compulsory increases the adoption of SPPM in county governments.
- HA2.* Capacity building efforts by the national governments toward performance measurement in county governments increases adoption of SPPM.
- HA3.* Development of nationwide database for performance measurement benchmarking among county governments increases adoption of SPPM.

Extant literature also shows that government regulations on performance measurement and reporting can have varying impact on choice of performance metrics at county or local governments. This is in line with institutional theory which asserts that organizations can be coerced to adopt certain practices from the external environment ([Powell & DiMaggio, 1991](#)). A study by [Patrucco et al. \(2016\)](#) evaluated the effectiveness of PPPMS among local governments in Italy and Wales, using a case study design. The study examined the effect of regulation on the design of public procurement performance measurement. In Wales, the Local Audit and Accountability Act through Local Government Bodies Regulations developed a performance reporting framework that consists of 66 metrics and 24 items of governance and management. In Italy there are 150/2009 regulations that mandate the local government to establish strategic and operational performance metrics, specifically singling out specific metrics to be monitored and reported.

[Patrucco et al. \(2016\)](#) revealed that out of 106 performance metrics monitored in local governments in Italy and Wales, only 25% of them are reported in official government documents. [Patrucco et al. \(2016\)](#) further reported that government regulation affected the design of PPPMS, by requiring local governments to use certain performance metrics. However, their study concluded that mandatory performance metrics were too few to assess the overall impact of public procurement, and insufficient to identify key areas for improvement. [Patrucco et al. \(2016\)](#) findings are inconclusive as to the exact impact of

regulations on design and implementation of public procurement performance measurement in local governments.

Another study by [Brusca and Montesinos \(2016\)](#) identified that despite of the legal requirements being in place, it was only New Zealand that utilized high quality performance metrics. [Brusca and Montesinos \(2016\)](#) reported that performance reporting in Italy, Spain and Portugal were dominated with financial indicators with no inclusion of outcome and nonfinancial performance metrics, confirming the findings by [Patrucco et al. \(2016\)](#) in Italy.

Conclusively, the extant literature demonstrates that the regulatory framework can influence the types of performance metrics used in PPPMS. The literature shows that regulations can identify different sets of metrics including operational and strategic in the case of Italy and New Zealand. However, the same literature has shown that there is a mismatch between what the regulations stipulates and what is actually used in measurement and reported. As such, the results from extant literature are inconclusive as to the exact impact of regulations on types of performance metrics used in performance measurement at local government. In consequence, this study hypothesized that.

- HA1. Existence of law on public procurement PMS increases the adoption of SPPM in county governments.
- HA2. Noncompliance sanctions with public procurement PMS increases adoption of SPPM in county governments.
- HA3. Explicit strategic performance metrics in the legal framework increases adoption of SPPM in county governments.

This relationship is conceptualized in [Figure 2](#).

4. Methodology

4.1 Research design

The study adopted a survey research design under a mixed method approach. The survey design was adopted to enable the researchers to gain a group perspective of the phenomenon under study. The mixed method approach enabled collection of both quantitative and qualitative data from the target population. The target population of study involved all the

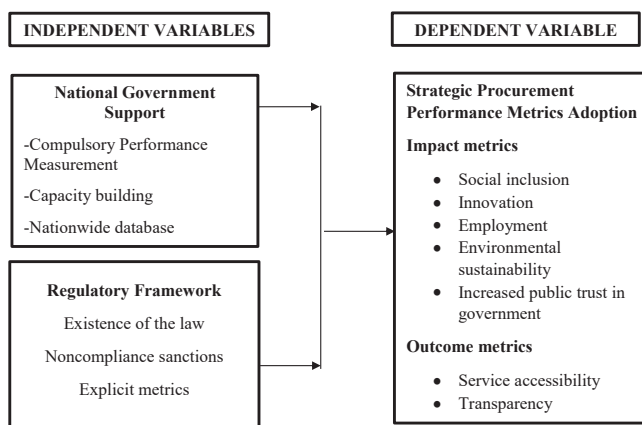


Figure 2.
Conceptual framework
of strategic
procurement
performance metrics
adoption

115 employees working in procurement, stores and finance departments at the head offices of Kakamega County Government (Human Resource Department, KCG, 2020). Kakamega County Government was specifically chosen because it is among the earliest adopters of county government performance management framework which requires the utilization of outcome and impact metrics. Data were collected through the use of survey questionnaire, semi-structured key informant interviews and documentary review. A census approach was adopted due to a manageable number of the target population and to increase the response rate (Sekaran & Bougie, 2016). However, only 87 respondents completed and returned the questionnaire translating to 75.65% response rate. Some of the participants who failed to respond were transferred to sub-county offices losing physical contact, while others went into official work leave. A nonresponse bias test was conducted using independent sample *t* test for national government support variable and chi-square test for regulatory framework among early and late respondents to determine whether there were any significant differences. Fifty-three respondents returned their questionnaires on the first visit while 34 filled and handed over on subsequent visits. The 53 early respondents ($M = 3.8, SD = 0.53$) and 34 late respondents ($M = 3.7, SD = 0.6$) did not demonstrate any statistically difference in their response toward national government support variable ($t(85) = 0.979, p > 0.05$). The chi-square test also revealed the same statistically insignificant results for regulatory framework with $\chi^2(16) = 22.4, p = 0.131$.

4.2 Measures

A five-point Likert scale was used to measure the perceptions of respondents on the effect of independent variables on the dependent variables. The perceptions were rated from 1–5, representing strongly disagree to strongly agree in ascending order. The respondents were asked to indicate whether they strongly disagreed (1), disagreed (2), not sure (3), agreed (4) and strongly agreed (5) with the statements by checking in the appropriate boxes. A mean index developed Kalatya and Moronge (2017) was used in the study, where a mean of 1.0 to 2.5, indicated not agreed, a mean of 2.6 to 3.4 identified neutrality, while a mean of 3.5 to 5.0 indicated agreed upon. The questions covered subvariables identified in the theoretical and empirical literature namely compulsory performance measurement, capacity building, nationwide database (Phillips, 2018; Fahlevi *et al.*, 2018; Eliuz *et al.*, 2017; Akbar *et al.*, 2015), existence of law, noncompliance sanctions and explicit metrics (Patrucco *et al.*, 2016; Brusca & Montesinos, 2016).

4.3 Data analysis

Descriptive statistics were used to analyze raw data converting it into mean and standard deviation since descriptive statistics main role is to describe the data (Gupta & Gupta, 2020). In inferential analysis, first the degree of association was established through Pearson and Spearman rank-order correlation coefficients. Spearman's *rho* correlation coefficient was applied on nonparametric data. Then multiple regression model and ordinal logistic regression model were applied in inferential analysis for parametric and nonparametric variables, respectively. The multiple regression model equation applied was;

Multiple regression model equation:

$$Y = \alpha + \beta_1 CPM + \beta_2 C_B + \beta_3 NWD + \epsilon \quad (1)$$

Y = Dependent variable (in this case SPPM adoption)

CMP = Compulsory Performance Measurement, CB= Capacity building, NWD= Nationwide,

$\beta_1-\beta_n$ = Regression coefficient

α = Intercept

ε_i = Error term

5. Findings and discussions

5.1 Reliability test

Cronbach's alpha was used to test the reliability of the survey questionnaire used in data collection. As indicated in [Table 1](#), the internal consistency of the questionnaire was found to be highly acceptable with both national government and regulatory framework with Cronbach's alpha coefficient of more than 0.8, which according to [Creswell \(2014\)](#) it is highly acceptable. The minimum acceptable value of Cronbach's alpha is 0.7, while below 0.6 calls for thorough review of the data collection instruments ([Creswell, 2014](#)).

5.2 Content validity

The questionnaire and the interview questions were also subjected to content validity tests. This was to ensure that the data collection instruments had enough items that represented the item under measurement ([Sekaran & Bougie, 2016](#)). First all questions in the questionnaire were developed in accordance to the study's objectives, theoretical and empirical review. Furthermore, through the help of experts, each item in the questionnaire was reviewed, leading to rephrasing of 3 of 15 questions. Content validity index (CVI) was then established by dividing the number of valid questions by the total number of questions leading to CVI of 0.8 which is above the minimum recommended value of 0.7 ([Amin, 2005](#)).

5.3 Proportional odds test

It is the assumption of ordinal logistic regression that the relationship among the regressor variables is the same when compared across all levels (ordinal ratios are equal across all thresholds) ([Osborne, 2015](#)). As such, a test of parallel lines was conducted to establish whether the nonparametric variables satisfied this assumption. As shown in [Table 2](#) the assumption was satisfied by nonsignificance ($p > 0.05$) results.

5.4 Descriptive analysis

Six statements were presented in Likert scale as well, where respondents indicated their level of disagreement or agreement on scale of 1–5. The respondents were asked to indicate whether they strongly disagreed (1), disagreed (2), not sure (3), agreed (4) and strongly agreed

| Variable | Reliability Cronbach's alpha | Number of items | Comment |
|-----------------------------|------------------------------|-----------------|-------------------|
| National government support | 0.809 | 3 | Highly acceptable |
| Regulatory framework | 0.852 | 6 | Highly acceptable |

Table 1.
Reliability of the data

| Variable | Model | -2Log likelihood | Chi-square | Df | Sig |
|----------------------|-----------------|------------------|------------|----|-------|
| Regulatory framework | Null Hypothesis | 178.467 | 50.751 | 44 | 0.250 |
| | General | 111.492 | | | |

Table 2.
Test of parallel lines

(5) with the statements by checking in the appropriate boxes. A mean index developed [Kalatya and Moronge \(2017\)](#) was used in the study, where a mean of 1.0 to 2.5, indicated not agreed, a mean of 2.6 to 3.4 identified neutrality, while a mean of 3.5 to 5.0 indicated agreed upon.

The results in [Table 3](#) shows that the average mean of three subvariables of national government support was 3.75, identifying that respondent were certain that national government support affects the adoption of SPPM in county governments. This perception was also confirmed by one of the key informant interviewees, who noted that, "... *any directive issued by the national treasury is taken very seriously. County governments will not be able to evade if National treasury makes it compulsory especially if it is linked with disbursement of funds...*" (Key informant interviewee, Field Data, KCG, 18 May, 2021). Similar findings were also reported by [Brusca and Montesinos \(2016\)](#) who learned that the level of utilization of outcome and impact metrics was high in countries where national government was directly involved in PMS of subnational governments. Additionally, both [Fahlevi et al. \(2018\)](#) and [Akbar et al. \(2015\)](#) observed that compulsory performance measurement requirement from the national government was the main driving force behind Indonesian local government performance measurement. This shows that national government support such as participating in establishing performance metrics, providing capacity building empowerment and facilitating county governments to learn from each other promotes adoption of SPPM.

As shown in [Table 3](#) the average mean of the 7 subvariables of regulatory framework was 3.81 showing that it was agreed that regulatory framework affects the adoption of SPPM in subnational governments. These findings are consistent with those of [Patrucco et al. \(2016\)](#) who identified that legal framework affected the design of PPPMS, by requiring local

| | Likert mean | Std. deviation |
|---|-------------|----------------|
| <i>Statement on national government support</i> | | |
| Making procurement performance measurement and reporting compulsory incentivizes the use of strategic procurement performance metrics | 4.48 | 0.68 |
| National government provides appropriate capacity building for strategic procurement performance measurement and reporting | 3.36 | 1.1 |
| National government facilitates documentation of strategic procurement performance measurement information from county governments for benchmarking purposes | 3.06 | 1.1 |
| <i>Average</i> | 3.75 | 0.99 |
| <i>Statement on regulatory framework</i> | | |
| There is specific law(s) that regulate public procurement performance measurement in county governments | 3.64 | 1.21 |
| The law provides where and when public procurement performance measurement within county governments should be reported | 3.62 | 1.03 |
| There are negative consequences if the county government fails to comply with regulatory framework on public procurement performance measurement | 4.29 | 0.65 |
| Law governing procurement performance measurement within county governments is clear | 2.94 | 1.42 |
| Public procurement performance measurement regulations explicitly identify types of procurement performance metrics to be used for instance input, output and outcome metrics | 4.14 | 0.90 |
| Strategic procurement performance metrics such as outcome indicators are specifically mentioned in the regulatory framework | 4.20 | 0.87 |
| <i>Average (regulatory framework)</i> | 3.81 | 0.87 |

Table 3.
Descriptive analysis

governments to use certain types of performance metrics. However, Brusca and Montesinos (2016) noted that existence of law had very minimal impact on the effectiveness of PMS used in subnational governments. Nonetheless, this study shows that a regulatory framework that specifically regulated PP performance measurement, clearly identified where and when to report performance measurement results, imposed noncompliance sanctions and explicitly identified strategic performance metrics incentivized the adoption of SPPM in county government.

5.4.1 Association between national government support, regulatory framework and SPPM adoption. Pearson correlation coefficient was run on the association between national government support and adoption of SPPM. Table 3 indicates that there was a weak negative association, which was statistically significant ($r = -0.424, p < 0.05$) between national government support and SPPM adoption. This implies that increase in national government support is likely to decrease the adoption of SPPM at county governments. This finding contradicts many previous studies which found a positive and significant association (Fahlevi et al., 2018; Gowon, Rohman, Basuki, & Fortunasri, 2018; Eliuz et al., 2017; Brusca & Montesinos, 2016).

Spearman's rank-order correlation coefficient was conducted to test the degree of association between regulatory framework and SPPM as shown in Table 4. It was found that there was moderately positive relationship between regulatory framework and SPPM ($r_s(85) = 0.373, p = 0.000$). This relationship was found to be statistically significant, revealing that regulatory framework encouraged the adoption of SPPM within county governments.

5.4.2 Regression analysis on national government support and adoption of SPPM. A multiple regression analysis was conducted to find out whether national government support through its subindependent variables; compulsory performance measurement, capacity building and nationwide database had a significant relationship with the adoption of SPPM in KCG. The results of the regression, in Table 5 (footnotes) indicate that the model accounted for 21.3% of the variance in dependent variable. Additionally, the regression also indicated that the model was a statistically significant predictor of SPPM adoption,

| | | | National government support | SPPM adoption |
|---------------------------------|-----------------------------|-------------------------|-----------------------------|---------------|
| Pearson correlation coefficient | National Government Support | Correlation Coefficient | 1.000 | -0.424 |
| | | Sig. (2-tailed) | | 0.000 |
| | | N | 87 | 87 |
| | SPPM adoption | Correlation Coefficient | -0.424 | 1.000 |
| | | Sig. (2-tailed) | 0.000 | |
| | | N | 87 | 87 |
| | | | Regulatory framework | SPPM adoption |
| Spearman's rho | Regulatory framework | Correlation Coefficient | 1.000 | 0.373 |
| | | Sig. (2-tailed) | | 0.000 |
| | | N | 87 | 87 |
| | SPPM adoption | Correlation Coefficient | 0.373 | 1.000 |
| | | Sig. (2-tailed) | 0.000 | |
| | | N | 87 | 87 |

Note(s): *Correlation is significant at the 0.01 level (2-tailed)

Table 4.
Correlation analysis

F (3,81) = 4.373, $p = 0.001$ (see Table 5 footnotes). This meant that the results of the model could be relied upon to draw inferences.

From the model coefficients (Table 5), it was discovered that compulsory performance measurement ($\beta = -0.142, p = 0.109$), and nationwide database ($\beta = -0.037, p = 0.547$) did not significantly contribute to the model. Hence, the alternative hypothesis for both the variables was rejected. However, capacity building ($\beta = -0.173, p < 0.05$) by the national government was found to have a negative but statistically significant effect on adoption of SPPM. Therefore, the final predictive model became:

$$\begin{aligned}
 \text{SPPM adoption} = & 5.412 - (0.142 * \text{Compulsory Performance Measurement}) \\
 & - (0.173 * \text{Capacity building}) - (0.037 * \text{Nationwide Database}) \\
 & + 0.52308 \qquad (2)
 \end{aligned}$$

From this model, compulsory performance measurement requirement from national government and nationwide database on public procurement performance in counties were found to have no relation with adoption of SPPM. These findings uniquely stand out among previous studies (Fahlevi *et al.*, 2018; Gowon *et al.*, 2018; Brusca & Montesinos, 2016) which had shown a positive and significant relationship between compulsory performance measurement and utilization of SPPM in subnational governments. According to Brusca and Montesinos (2016), the level of adoption of strategic and outcome-based performance metrics was very high in countries where performance measurement and reporting was compulsory. This was found to be the case in New Zealand, Norway, the United States and Switzerland among others. Fahlevi *et al.* (2018) also reported that most local governments in Indonesia adopted strategic performance metrics due to coercive pressure from national government.

While this study contradicts many previous studies (Fahlevi *et al.*, 2018; Brusca & Montesinos, 2016), compulsory performance measurement requirement from national government may fail to promote adoption of strategic performance metrics for a number of reasons. First, the compulsory performance metrics are not strategic, yet they are the only metrics that county governments are under obligation to measure and report, as was identified by Patrucco *et al.* (2016). In addition, while Akbar *et al.* (2015) found compulsory performance measurement a driving force in Indonesia, the study reported that Indonesian local governments were not reporting their performance measurement correctly. This implies that it is imperative for national government to ensure that compulsory performance metrics are strategic and are in line with the strategic goals of subnational governments.

The regression model also identified that 1% increase in capacity building will lead to 14.1% decrease in adoption of SPPM when other variables are controlled. From this finding, it can be concluded that capacity building efforts by the national government seem to decrease

| Model | Unstandardized coefficients | | Standardized coefficients | T | Sig |
|------------------------------------|-----------------------------|------------|---------------------------|--------|-------|
| | B | Std. error | Beta | | |
| Constant | 5.412 | 0.434 | | 12.476 | 0.000 |
| Compulsory performance measurement | -0.142 | 0.087 | -0.168 | -1.621 | 0.109 |
| Capacity building | -0.173 | 0.059 | -0.356 | -2.942 | 0.004 |
| Nationwide database | -0.037 | 0.062 | -0.073 | -0.605 | 0.547 |

Note(s): (Model summary; $R = 0.461, R^2 = 0.213, \text{Std. error of estimate} = 0.52308$) (ANOVA; $F(3.83) = 6.977, p = 0.000$)

Table 5.
Relationship between national government support and SPPM adoption

the adoption of SPPM in county governments. This finding is inconsistent with the existing literature and was the most unexpected results of the study. [Eliuz et al. \(2017\)](#) reported that national government capacity building efforts particularly training improves the quality of performance metrics used in local governments. This study interprets this finding to imply that while national government capacity building efforts increases the ability of county governments to adopt SPPM, it does not always guarantee that such technical capacity will be used to do so. County governments may have the technical capacity but lack the willingness to adopt and utilize strategic performance metrics, although it is expected so ([Eliuz et al., 2017](#)). A comprehensive understanding of this result may call for examining of the approach the national government uses to offer its capacity building efforts given that county governments are autonomous governments. If the approach is coercive as suggested by the institutional theory ([Powell & DiMaggio, 1991](#)), it may diminish the willingness of county governments to utilize the skills they have acquired to adopt SPPM. In consequence, this study underlines the need for deeper understanding of how the approach of capacity building efforts by the national government may affect the adoption of SPPM at county government level.

Furthermore, providing capacity building on adoption of SPPM may enlighten some key county government political stakeholders on the kind of information on county government performance that will be in the public domain. [Tran and Nguyen \(2020\)](#) argued that sharing result-based performance measurement information to the public may necessitate changes in resource allocation, budgeting and even personal political ambitions which might not be supported by some political leaders. Also, an effective PMS was found to put pressure on public organization to perform better ([Tran & Nguyen, 2020](#)). Thus, it is very likely that the use of SPPM may even decline, after receiving technical training since some political leaders may not want to be exposed to such an extent especially when they perform poorly. This implies that capacity building efforts by the national government may likely be affected by the existing political disincentives of county government leadership. In his article, *The Politics and Consequences of Performance Measurement*, [Lewis \(2015\)](#) alluded to such a relationship by stating that, “there are many reasons why performance measurement system may not be successful, including the nature of government agencies as institutions. . . .” (p. 7). [Lewis \(2015\)](#) submission enlightens that the type and nature of the effect of national government capacity building efforts can well be understood in the context of a spectrum of other factors at play within government agencies. This shows that any type of relationship (negative or positive) is possible depending on other factors at play.

In general, this study has shown that capacity building efforts by the national government is detrimental to adoption of SPPM. Do these findings nullify the coercive isomorphism argument by institutional theory? Certainly not! However, in relation to coercive isomorphism, the institutional theory failed to capture the role of moderating or mediating factors. For instance, although in previous studies ([Fahlevi et al., 2018](#); [Eliuz et al., 2017](#); [Brusca & Montesinos, 2016](#)), support from central government shows positive effect on quality of performance metrics in subnational governments, the negative effect in county government may be attributed to the level of autonomy of county governments and political disincentives of county leadership. County governments in Kenya enjoy high degree of autonomy compared to other local governments. As such, when county governments feel that their autonomy is being infringed, there may be a tendency to resist any engagement with central government. In making this submission, the study is cognizant of the provision of chapter eleven of *Constitution of Kenya (CoK, 2010)*, which requires that the interaction between national and county government should be based on consultation and cooperation rather than coerciveness.

5.4.3 Relationship between regulatory framework and adoption of SPPM. This study hypothesized that regulatory framework affects the adoption of SPPM in Kakamega County Government. This hypothesis was tested using ordinal logistic regression against three constructs of regulatory framework. These sub-variables are existence of law on procurement performance measurement, noncompliance sanctions, and explicit strategic metrics mentioned in the law. Various tests to establish the suitability of the model were done. First, a test to determine the model fitness was conducted. The -2 log likelihood null model was compared to the final model which comprised of the three predictor variables explicitly – existence of law, noncompliance sanctions and explicit metrics – to assess whether the final model showed significant improvement over the intercept only model. Based on the results of chi-square test, the results in Table 6 (footnotes) shows that the final model used in the study portrays remarkable improvement in its fit over the intercept only model ($\chi^2 (15) = 40.353, p < 0.05$).

Second, a goodness-of-fit test was also conducted to establish whether the model was a good fit to the collected data. Osborne (2015) explains that ordinal logistic regression model is deemed fit for the data when the test is nonsignificant ($p > 0.05$). As shown in Table 6 (footnotes), the results indicate that the model is fit to the data with nonsignificant values of deviance test $\chi^2 (235) = 154,452, p = 1.000$.

The study also tested the overall effect of the independent variables on dependent variable through Pseudo R-Squared values. Nagelkerke value of 0.391 was found, implying that at 95% confidence interval, 39.1% (See Table 6 footnotes) variation in adoption of SPPM can be linked to changes in existence of the law, noncompliance sanctions and explicit metrics. Furthermore, the proportional odds tests show that the relationship among regressor variables was the same yielding nonsignificant results $\chi^2 (44) = 50.751, p = 0.250$ (see Table 6 footnotes). Hence the assumption of proportional odds test was met.

Through ordinal logistic regression, parameters of estimates (Table 6) for each independent variable were also produced to establish whether they can significantly predict the adoption of SPPM. Existence of law on public procurement performance measurement was found unrelated with adoption of SPPM with log odds of 0.052, Wald $\chi^2 (1) = 0.027, p = 0.869$, rejecting the alternative hypothesis. Looking at the positive relationship exhibited, this study concludes that existence of law on PP PMS is likely to increase the chances of adopting SPPM at least with log odds of 0.052. This conclusion is cognizant of the argument by institutional theory, that firms may adopt certain practices to gain legitimacy in their operational environment (Powell & DiMaggio, 1991). Additionally, it is consistent with a study by Patrucco et al. (2016), which draw the inference that regulations shape the design of

| | Estimate | Std. Error | Wald | Df | Sig | 95% confidence interval | |
|-------------------------|----------|------------|--------|----|-------|-------------------------|-------------|
| | | | | | | Lower bound | Upper bound |
| Threshold [PM = 2.50] | 0.857 | 3.106 | 0.076 | 1 | 0.783 | -5.231 | 6.945 |
| [PM = 3.00] | 2.293 | 3.108 | 0.544 | 1 | 0.461 | -3.799 | 8.384 |
| [PM = 3.50] | 4.094 | 3.151 | 1.688 | 1 | 0.194 | -2.082 | 10.270 |
| [PM = 4.00] | 6.713 | 3.196 | 4.413 | 1 | 0.036 | 0.450 | 12.976 |
| [PM = 4.50] | 7.953 | 3.210 | 6.140 | 1 | 0.013 | 1.663 | 14.244 |
| Existence of law | 0.052 | 0.317 | 0.027 | 1 | 0.869 | -0.569 | 0.673 |
| Noncompliance sanctions | 0.226 | 0.437 | 0.268 | 1 | 0.605 | -0.630 | 1.082 |
| Explicit metrics | 1.358 | 0.364 | 13.929 | 1 | 0.000 | 0.645 | 2.071 |

Table 6. Relationship between regulatory framework and SPPM adoption

Note(s): Model fitting information (Chi-square = 40.353; Sig 0.000; Loglikelihood = 178.467) Goodness-of-Fit (Pearson = , $\chi^2 (235) = 908.652, p = 0.000$; Deviance = $\chi^2 (235) = 154,452, p = 1.000$), Cox and Snell R-Square = 0.371; Nagelkerke R-Square = 0.39 McFadden R-square = 0.157) (Test of parallel lines, -2 Log Likelihood = 111.492, $\chi^2 (44) = 50.751, p = 0.250$)

procurement PMS in subnational governments. [Yang and Torneo \(2016\)](#), also identified that regulation framework was the foundation of performance measurement in South Korean government. However, it is still possible that mere existence of the law may not be related in any way with adoption of SPPM. Such findings were reported by [Brusca and Montesinos \(2016\)](#), who noted that despite of an elaborate regulatory framework on PMS in countries such as Italy, Spain, and Portugal the intake of outcome metrics was exceedingly low.

On relationship between noncompliance sanctions and adoption of SPPM, ordinal regression analysis revealed that the two were unrelated with log odds of 0.226, Wald $\chi^2(1) = 0.268, p = 0.605$, hence rejecting the alternative hypothesis. Notwithstanding the lack of statistical significance, these findings reveal that there is expected increase of 0.226 in the log odds of being in higher levels of SPPM adoption, for each unit increase in noncompliance sanctions, regulating other variables. This finding implies that existence of noncompliance sanctions within procurement performance measurement and reporting regulations promotes the adoption of strategic performance metrics. Previously, [Vignieri \(2018\)](#) had reported that failure to conduct performance audit to establish irregularities rendered regulation on performance measurement powerless. A recent study, on another hand, by [Kaye-Essien \(2020\)](#), reported that lack of noncompliance sanctions contributed to delayed performance reporting in subnational governments. As such, this study amplifies the argument by the institutional theory on the role of coercive pressure through legal framework to promote adoptions of formal structures within organizations.

This study also sought to establish the relationship between the explicit identification of SPPM in the regulatory framework and its adoption. This was tested against the hypothesis that there is no significant relationship between explicit metrics and SPPM adoption. Ordinal regression analysis revealed that explicit metrics are positively and significantly related; 1.358 Wald $\chi^2(1) = 13.929, p < 0.0001$; with adoption of SPPM, accepting the alternative hypothesis. These findings imply that there was an expected increase of 1.358 in the log odds of falling in higher levels of SPPM adoption with individual unit increase in explicit metrics. Previous studies, [Fahlevi et al. \(2018\)](#), [Gowon et al. \(2018\)](#), and [Yang and Torneo \(2016\)](#) found that existence of elaborate legal framework improved the effectiveness of performance measurement in subnational governments. This study enriches institutional theory which had mentioned the influence of legal framework but failed to explain how it should be structured.

On the contrary, a number of studies reported that inclusion of strategic performance metrics in the law was not enough to incentive their utilization in subnational governments. [Brusca and Montesinos \(2016\)](#) reported that although countries such as Italy, Spain and Portugal had outcome metrics mentioned in their regulations, they were not being utilized. A number of studies have attempted to address this anomaly. Failure by subnational governments to incorporate legally identified metrics can be attributed to lack of performance measurement audit by national government ([Vignieri, 2018](#)), lack of technical competence ([Smit & Umit, 2017](#)), and goal incongruence ([Wang, 2018](#)). Goal incongruence arises when the legally proposed performance metrics are rigid, yet PMS is highly dynamic and uncertain ([Sardi, 2019](#); [Wang, 2018](#); [Gebczynska & Brajer-Marczak, 2020](#)). Similarly, [Patrucco et al. \(2016\)](#) identified that procurement performance metrics in the regulatory framework were too few to measure the strategic impact of public procurement in subnational governments.

6. Conclusion and policy implications

Amidst the scarcity of resources, it is undisputable that an effective PPPMS is required particularly in county governments, especially for Kenya to realize its ambitions in devolved governance system. County governments cannot be effectively evaluated on their performance if the long-term, strategic impact of public procurement processes and

projects is not captured. And as such, adopting a reliable public procurement PMS is certainly not an option for county governments. This study has identified that, institutional forces as postulated in institutional theory, specifically regulatory framework positively affects the adoption of SPPM in county governments. The study thus recommended that the national government should provide more capacity building support to county governments, particularly training in strategic performance measurement. However, such support ought to take a partnership rather than coercive approach. This may help to eliminate the tendency of county governments becoming overprotective on their autonomy whenever national government tries to intervene in their affairs. The study also recommends national government through National Treasury to enforce all regulations on public procurement performance measurement within county governments. Additionally, national government through the Public Procurement Regulatory Authority should expedite the process of developing public procurement performance monitoring and evaluation policy and framework that will include more outcome and impact-based performance metrics. This will promote the adoption of SPPM in county governments.

In regards to policy implications, there is a need for formal mechanism that will enable the national government in partnership with council of governors to be proactively involved in developing procurement performance measurement capacity of county governments. Adopting coercive approach, as it is done in most European countries may lead to resistance; hence, the need to formulate a formal policy based on collaboration and partnership between national government and county governments. Lastly, there is need for reforms in the public procurement legal framework. The study has revealed that the public procurement act and regulations are so silent on the aspect of performance measurement, yet explicit metrics have been found to increase adoption of SPPM. Legal reforms should focus in identifying and elaborating on using outcome and impact metrics at various stages of public procurement process.

7. Limitations and areas of further research

This study was limited to a few extra-organizational factors leaving out other factors such as top management commitment, meritocracy, demand for performance measurement information and political leadership support among others. In addition, it did not consider intervening factors such as level of autonomy of the county governments. Including all these factors might improve the interpretation of contradicting results and also contribution of the study to institutional theory. For instance, it was surprising to find that national government support discourages the adoption of SPPM in county governments, contradicting many earlier studies done in local governments. It was expected that national government support of any nature will incentivize the adoption of outcome-based performance metrics. Future studies should examine this area to provide deeper understanding perhaps considering the effect of moderating and intervening variables such as degree of autonomy and political support from county government leadership.

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