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Contract Management Practices and Service Delivery in Local Governments: Evidence from Structural Equation Modeling

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Abstract

Purpose: This study examined the effect of contract management practices on service delivery, with a main focus on contract monitoring, change and variation management, and contract performance evaluation. The study aims to examine the direct and collective effects of these practices on public-sector service delivery. The increased public procurement expenditure, which does not represent the expected service delivery, is the major motivation behind this study in order to provide empirical evidence to inform practice and policy.

Methodology: The study employed a cross-sectional research design based on a quantitative approach using Structural Equation Modeling (SEM). Questionnaires were used to collect primary data from 181 respondents in Jinja District and City, while secondary data was collected through reviewing existing documents. The sample was determined through stratified and simple random sampling techniques. SPSS (Version 28) and JASP (Version 0, 95.4.0) were used in data analysis. The preliminary findings revealed a (KMO) result of 0.808, and a significant Bartlett's test of sphericity ($\chi^2 = 8822$, df = 276, $p < 0.001$). Mardia's test (skewness p = 0227; kurtosis p = 0.777). The reliability and validity of the measurement model for all the constructs (CR) ranged from 0.848 to 0.868 and were above the threshold of 0.7, hence supporting the reliability of the constructs, and the average variance extracted (AVE) was above 0.50, implying that constructs explain a substantial portion of variance in their respective indicators. The model revealed good fit indices CFI = 0.93, TLI = 0.91, RMSEA = 0.056, SRMR = 0.049.

Findings: The findings revealed that contract monitoring ($\beta = 0.271$, $t = 4.314$, $p < 0.001$), change and variation management, ($\beta = 0.254$, $t = 4.000$, $p < 0.012$) and contract performance evaluation ($\beta = 0.321$, $t = 5.156$, $p < 0.001$) revealing a positive significant effect on service delivery with the model accounting for 47.2% of variance ($R^2 = 0.472$). It was concluded that contract management practices have a significant positive effect on service delivery in the public sector, and the researchers recommend the use of digital systems, structured performance procedures, transparency, accountability, training, and enforcement of rules and procedures.

Unique Contribution to Theory, Practice and Policy: Although several studies have examined contract management practices, their methodologies have not employed advanced analytical techniques like SEM. In addition, current studies like (Mwanaumo, Mwale, Mwanaumo, Mwanza, & Chisumbe, 2024; Changalima, Mushi, & Mwaiselage, 2023) have often considered contract management as a unidimensional construct, neglecting the multidimensional nature resulting in contract monitoring, change and variation management, and contract performance evaluation as proposed by (World Bank, 2021). The empirical findings indicated that contract management significantly influences service delivery, implying that those responsible for contract management should allocate more resources and critically monitor post-award management, rather than focusing solely on the contract award phase. This study suggests that government regulatory bodies should strengthen procurement rules and regulations, enhance institutional capacity through training, and consistently align contract management objectives with service delivery to enhance public value.

Keywords: *Contract Management, Public Sector, Service Delivery, Structural Equation Modeling*

JEL Classification: *H57, H83, H11, C38*

INTRODUCTION

Public entities have the responsibility of extending essential services, including healthcare, education, and infrastructure, among others, to the citizens through procurement contracts aimed at acquiring goods and services from providers. Contracts are often seen as mechanisms that guarantee accountability, cost-effectiveness, and prompt service provision. Research demonstrates that inadequate contract management often undermines intended goals, resulting in cost overruns, delays, and worse service delivery (Abiola & Oladipo, 2020; Onyango, 2019)

In this study, contract management denotes the systematic process of planning, executing, monitoring, and assessing contract performance to guarantee compliance with contractual responsibilities by both parties (Kakooza, 2018)

Service delivery in the public sector is often assessed based on timeliness, quality, efficiency, and citizen satisfaction (World Bank, 2021). Therefore, any decline in contact management efforts can affect these parameters, leading to declining public trust and ineffectiveness in public resource utilization. Studies have emphasized the existence of a relationship between procurement methods and organizational performance; however, few studies have empirically examined the effect of contract management on service delivery. Furthermore, few studies have embraced robust analytical methods such as structural equation modelling (SEM) to thoroughly examine these interactions (Kenyi & Barasa, 2021).

In Uganda's decentralization framework, local governments are responsible for implementing a substantial proportion of public procurement contracts designed to boost effective service delivery at the grassroots level (Province, 2024).

Unlike ministries and agencies of central government, local governments face a variety of challenges, which include limited financial resources, technical capacity, political interference and monitoring systems, which affect the performance of contract implementation and service delivery to a great extent (Basheka & Bisangabasaija, 2010).

Structural Equation Modelling is particularly suitable for this study because it allows for the simultaneous assessment of multiple latent constructs, measurement of direct and indirect effects, and validation of the conceptual framework (Hair, Black, Babin, & Anderson, 2019). With the help of SEM, the study aimed at providing robust empirical evidence on the extent of the effect of contract management practices, specifically contract monitoring, change and variation management, and contract performance evaluation on service delivery. This study sought to address the following research question: What is the effect of contract management on service delivery in public sector organizations? The findings are expected to inform policymakers, procurement practitioners, and public administrators on strategies for enhancing service delivery through improved contract management.

Problem Statement

Service delivery is a primary challenge for public entities, especially in developing countries where the public sector faces increasing pressure to provide efficient, timely, and high-quality services to citizens (World Bank, 2021). Scholars like (World Bank, 2021; Moore, 1995; Parasuraman, Zeithaml, & Berry, 1988) emphasise the assessment of service delivery through timeliness, quality, efficiency, and citizen satisfaction. To improve service delivery, public procurement reforms have been introduced by several governments to enforce accountability and value for money. Challenges like project completion delays for example Office of Auditor General (2024/25) revealed that 83% of externally funded projects were behind schedule,

quality issues for example Shs500.3 billion in unpaid contractor arrears, including Shs73.9 billion in accrued interest which resulted in contractors suspending work and deterioration of completed road sections, cost overruns for example Busega –Mpigi express high way cost increased from EUR 176.26 million to EUR 424.61 million due to delays and scope changes, poor procurement implementation with only 14.8% of awaded contracts were completed, and low citizen satisfaction have persisted for example citizen perception on service delivery stood at 69% (UBOS, 2024/25) indicating a significant proportion of dissatisfied citizens, similarly, the Public Sector Transformation Annual Monitoring Report revealed that citizen satisfaction with public services was only 55% compared to the national target of 65%, highlighting persistent gaps in service quality, responsiveness, and accountability (MoFPED, 2025). All the above highlight an average service delivery that keeps the citizens in a state of strugling for services despite the heavy procurement investiment hence affecting public trust.

OECD (2023) asserts that governments, especially in developing countries, spend over 60% of their Gross Domestic Product (GDP) on procurement-related activities. However, this high expenditure has failed to translate into effective service delivery (IMF, 2023; World Bank, 2019; World Bank, 2017). Kenyi & Barasa, 2021; Onyango, 2019; Kakooza (2018) argue that this disparity is due to deficiencies in contract management practices.

Therefore, the current study is to address the above gaps by examining the effect of contract monitoring, change and variations management, and contract performance evaluation on service delivery with the help of an advanced analytical technique (SEM) because cervice delivery is a complex construct which can not be captured by single item measure used in traditional regressions.

LITERATURE REVIEW

Theoretical Framework

Agency Theory

The theory explains the principal - agent relationship in contractual arrangements (Eisenhardt, 1989). In public procurement, public organizations act as principals, engaging contractors as agents to deliver goods and services. The theory highlights that agents may act in their self-interest, which can lead to inefficiencies or non-compliance. Contract management practices, including contract monitoring, change and variation management, and performance evaluation, play a big role in reducing information asymmetry, enforcing accountability, and aligning agent behavior with organizational objectives.

Public Value Theory

The Public Value Theory**,** as promoted by (Moore, 1995) promotes the role of public entities in ensuring value for citizens through efficient and effective service delivery. Public value is created when governmental activities, laws, and procurement procedures address social demands and enhance citizens' well-being. From this viewpoint, contract management procedures are essential for improving public service results, since they guarantee that contracted services are provided in alignment with established standards, timeframes, and quality criteria.

Collectively, these theories suggest that managing the agent (contractor) is a prerequisite for public value and substantiate the study's emphasis on contract management as a critical determinant of service delivery in the public sector. Agency Theory details the methods of

responsibility and control, while Public Value Theory elaborates on the rationale for good contract management's contribution to enhancing service delivery.

Conceptual Framework

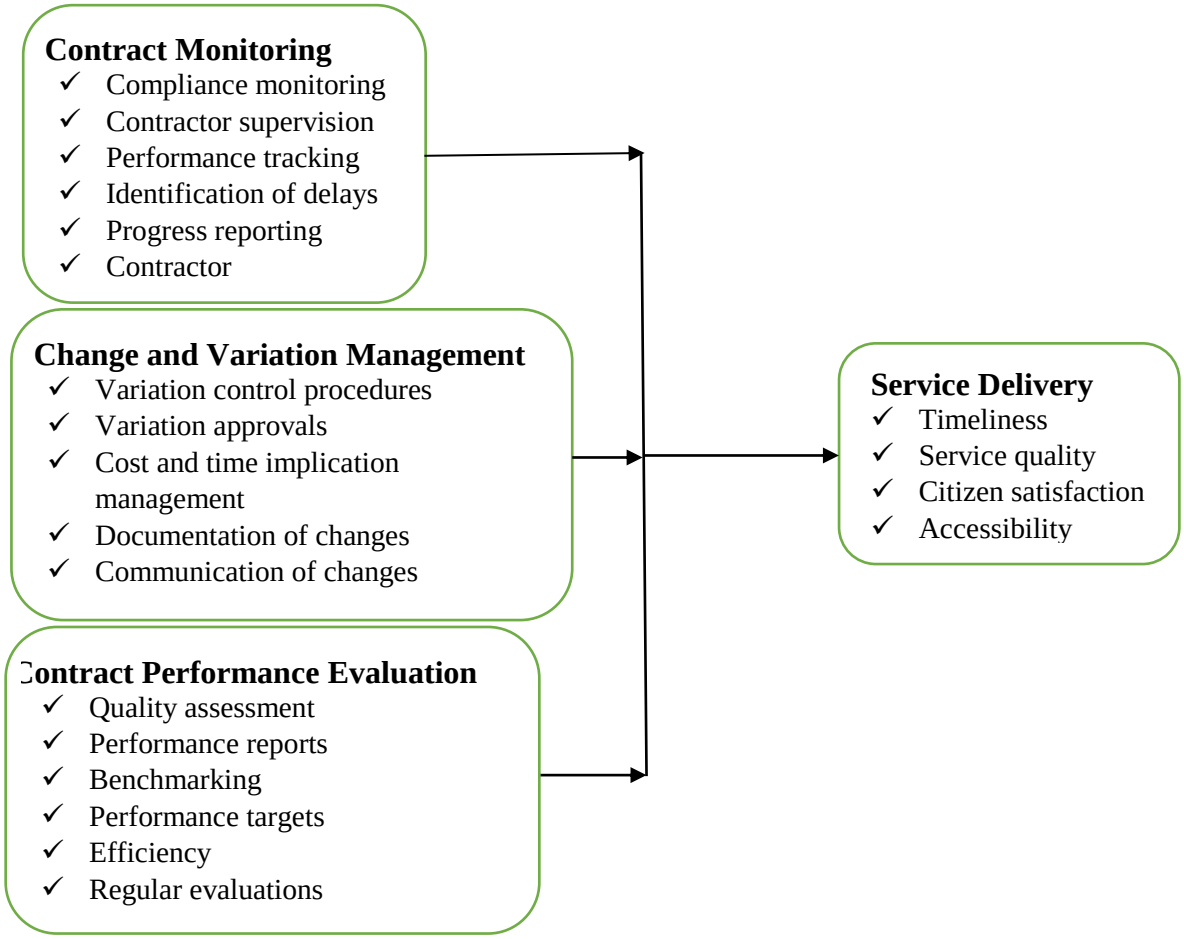

Figure 1: Conceptual Framework

Well managed contracts through contract monitoring, change and variations management, and contract performance is expected to meet citizens' needs hence value for many, citizen satisfaction and public trust.

Empirical Review

Contract monitoring is the systematic supervision of contract activities to ensure compliance with contractual terms (Kakooza, 2018). Contractor performance can be ensured through monitoring mechanisms to detect and mitigate deviations, delays, and risks (Kenyi & Barasa, 2021).

In any contract, monitoring mainly involves regular site inspections, progress reports, audit checks, and performance tracking. Relating to agency theory reduces the information asymmetry between public organizations (principals) and contractors (Agents) and ensures that agents focus on organizational objectives. Empirical studies propose that entities that effectively monitor their contacts experience insignificant service delays, noncompliance, and

higher satisfaction among citizens (Onyango, 2019; Changalima, Mushi, & Mwaiselage, 2023).

Furthermore (Mwanaumo, Mwale, Mwanaumo, Mwanza, & Chisumbe, 2024) also argue that supplier monitoring facilitates early identification of deviations from established plans, thereby mitigating risks related to cost overruns and project delays, which are key factors affecting service delivery, especially in public sector projects.

The public sector often experiences poor service delivery because of inadequate monitoring systems; therefore, there is a need to emphasize the significance of contract monitoring in ensuring transparency, mitigating corruption, and for contractors to provide services in line with established criteria (Tátrai, Nyikos, & Hajdu, 2024)

Prior studies have revealed the consistent role of contract management in improving service delivery, especially in public entities. Compliance, timeliness, and quality of services are said to be contract monitoring practices that significantly enhance service delivery for example in the study of Kenyi & Barasa (2021) which involved 120 public sector managers in Uganda revealed a positive significant correlation ($r = 0.68$, $p < 0.001$) between contract monitoring and service delivery and regression analysis revealed a positive effect ($\beta = 0.42$, $t = 4.15$, $p < 0.001$) implying that contract monitoring significantly predicts service delivery. Likewise, a study by Onyango (2019) revealed a significantly strong positive correlation ($r = 0.61$, $P < 0.001$) between contract monitoring and service delivery. However, a study by Kakooza (2018) reported a weak association between monitoring and service delivery, emphasizing the importance of oversight in public procurement.

Change and variation management is the formal process of managing modifications in line with contract scope, specifications, costs, or timeliness after a contract has been signed (Rahman & Kumaraswamy, 2002). Changes are always a result of unforeseen circumstances, regulatory updates, or evolving stakeholder needs, among others.

In order to ensure that changes and variations are well managed, modifications should be properly documented, approved & communicated, and should not compromise the objectives of the contract. This is in agreement with the public value theory since effective variations management will help maintain service quality, and accountability as compared to poor variation management which can easily result into cost overruns, delays, disputes, and substandard service delivery hence affecting public trust, and organizational credibility (Bombo, 2026; Panakaduwa, Coates, & Munir, 2025; Munyimi & Chikazheb, 2024; Abiola & Oladipo, 2020)

In addition, institutional weaknesses such as limited technical skills and poor approval procedures can affect the efficacy of change and variation management, and in situations of such weakness, variations are often exploited and result in opportunistic conduct by contractors, leading to poor quality services (Bombo, 2026). Hence, effective change and variations management needs robust governance procedures, rules, and a competent contract management team.

Change and variation management has also been associated with service delivery, for example, contract variations in construction projects were found to have a positive effect ($\beta = 0.37$, $t = 3.52$, $p < 0.01$) on project timeliness as reported in Kenya by Rahman & Kumaraswamy (2002).

Also, structured variation management practices revealed a positive and significant effect on service quality ($r = 0.59$, $p < 0.01$), and regression results revealed that variation management

accounted for 22% of variation in service delivery with $R^2 = 0.22$, $F = 7.94$, $p < 0.001$ (Abiola & Oladipo, 2020). In contrast, Kenyi & Barasa (2021) reported that disputes, delays, and low citizen satisfaction are a result of poor variation management, underscoring the importance of this dimension.

Kakoza (2018) asserts that contract performance evaluation involves assessing a contractor's fulfillment of contractual obligations and deliverables according to the contractual terms. It typically includes reviewing timelines, quality metrics, compliance with specifications, and customer satisfaction.

Contract performance evaluation is believed to inform future procurement decisions, enhance accountability, and provide feedback for corrective action and evaluating contract performance. It strengthens the principal's ability to enforce accountability and ensure that contractors act in the public interest, a notion that is in line with the Agency theory, and performance evaluation has been linked by studies to timeliness, improved efficiency, and overall service delivery in public organizations (Kenyi & Barasa, 2021).

Contemporary studies emphasize that contract performance evaluation improves service delivery by enforcing responsibility and continuous improvement. Mwanaumo, Mwale, Mwanaumo, Mwanza, & Chisumbe,(2024) argue that monitoring contractor performance enhances project performance and ensures compliance with terms and conditions. This implies that performance evaluation promotes future service delivery.

In addition, (Kinyua, Changwony, & Campbell, 2024) assert that contract evaluation and supervision measures, such as external audits and certifications, promote transparency and efficiency in procurement processes, hence promoting service delivery. These measures enforce the responsibility of contractors and managers and reduce the risk of poor service delivery and loss of public resources.

Service delivery has also been found to be influenced by contract performance evaluation, as reported by (Kakooza, 2018) whose study revealed a positive and significant effect ($\beta = 0.36$, $t = 3.98$, $p < 0.01$) on service delivery quality in Ugandan public procurement projects.

A positive correlation was reported between project completion rates and contractor evaluation ($r = 0.64$, $p < 0.01$), while regression analysis revealed that contract performance evaluation explains 29% of service efficiency ($R2 = 0.29$, $F = 8.45$, $p < 0.001$) (Onyango, 2019). This suggests that systematic contract performance evaluations, besides increasing accountability, also enhance citizen satisfaction.

Based on the literature, most studies have heavily relied on traditional correlation and regression techniques, and few have embraced Structural Equation Modelling (SEM) to rigorously and simultaneously examine the relationships among contract monitoring, change and variation management, contract performance evaluation, and service delivery while accounting for measurement error. Hence, the need for this study to adopt SEM to provide robust empirical evidence on the effect of contract management on service delivery in the public sector since ordinary regressions fail to account for measurement error which can lead to biased coefficients.

The hypotheses below were developed from the analysis of earlier studies to examine the effect of contract monitoring, change and variation management, and contract performance evaluation on service delivery.

H_1: Contract monitoring has a significant positive effect on service delivery

H_2: Change and variation management has a significant positive effect on service delivery

H_3: Contract performance evaluation has a significant positive effect on service delivery

Research Gaps

Although several studies have examined contract management practices, their methodologies have not employed advanced analytical techniques like SEM. In addition, current studies like (Mwanaumo, Mwale, Mwanaumo, Mwanza, & Chisumbe, 2024; Changalima, Mushi, & Mwaiselage, 2023) have often considered contract management as a unidimensional construct, neglecting the multidimensional nature resulting in contract monitoring, change and variation management, and contract performance evaluation as proposed by (World Bank, 2021). Therefore focusing on monitoring while ignoring other variables leads to implete understanding of project failure.

METHODOLOGY

The study employed a descriptive cross-sectional research design using Structural Equation Modeling (SEM) to test the hypothesized relationships because it enables the simultaneous evaluation of multiple latent constructs, accounts for measurement errors, and offers robust estimates of both direct and indirect effects (Hair, Black, Babin, & Anderson, 2019).

The target population consisted of procurement officers, contract managers, project managers, supervisors, and members of civil society organizations within Jinja City and district. The study employed stratified random sampling to ensure fair representation of the different categories of respondents, and a target population of 200 respondents was considered following the SEM recommendations of at least 5 – 10 respondents per estimated parameter (Kline, 2016). A total of 181 questionnaires were retained for data analysis after data cleaning, representing 90.5% response rate.

A structured questionnaire with closed-ended items based on a five-point Likert scale of 1 = strongly disagree to 5 = strongly agree was developed based on validated scales from previous studies to collect data (Kenyi & Barasa, 2021; Onyango, 2019; Abiola & Oladipo, 2020). Contract monitoring, change and variation management, and contract performance evaluation were measured with the help of items adapted from these studies, while service delivery was measured using items that reflect timeliness, quality, efficiency, responsiveness, and citizen satisfaction (Moore, 1995; World Bank, 2021). In order to ensure clarity, validity and reliability of the measurement items, a pilot study was conducted and it yielded a Cronbach's alpha coefficient above 0.7 for all the constructs, implying acceptable internal consistency.

A quantitative data analysis approach was employed to examine the relationships using SPSS (version 28 for preliminary tests and JASP (Version 0.17) for Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA)

Before conducting factor analysis, several preliminary tests were conducted to assess the suitability of the dataset: first was Mardia's test, which examined the multivariate normality.

Table 1: Mardia's Test of Multivariate Normality

	Value	Statistic	df	P
Skewness	79.611	2653.712	2600	.227
Small Sample Skewness	79.611	2696.738	2600	.091
Kurtosis	625.414	0.283		.777

Note. The statistic for skewness is assumed to be Chi^2 distributed, and the statistic for kurtosis standard normal.

Findings confirmed that the skewness statistic was not statistically significant (p = 0.227) hence data did not significantly deviate from multivariate normality in terms of skewness. Also, the small sample skewness was insignificant (p = 0.091). In addition, the standardized value of kurtosis was 0.283 (p = 0.77), which is within the acceptable range of ±3, suggesting no significant kurtosis-related deviation from normality (West, Finch, & Curran, 1995)

Table 2*:* Kaiser-Meyer-Olkin and Bartlett's Test of Sphericity

Test	Value
KMO (Overall)	0.808
Batlett's test of sphericity (x^2)	8822
df	276
p - value	< 0.001

Source: Primary Data (2026)

The dataset was also tested for sampling adequacy using the KMO criterion, and the overall value was 0.808, which is above the threshold of 0.7, implying sufficient sampling adequacy. A Battlet's test of sphericity was in addition conducted, and the test was significant (p < 0.001), confirming appropriateness of factor analysis as illustrated in Table 3 below (Field, 2018; Kaiser, 1974).

The researcher ensured ethical considerations throughout the study by seeking informed consent from participants, treating all responses with anonymity and confidentiality, ensuring that data were solely for research purposes, and obtaining approval from the research ethics committee before data collection.

FINDINGS

Exploratory Factor Analysis

Upon confirming the suitability of the data set, Exploratory Factor Analysis (EFA) was conducted to establish the factor structure of the constructs, and only factors with eigenvalues above 1 were considered for the subsequent confirmatory factor analysis (CFA). Only items with factor loadings of 0.5 and above whose uniqueness values were less than 0.7 were retained to improve construct validity (Tabachnick & Fidell, 2019; Stevens, 2012).)

Table 3: Factor Loadings

	Contract Performance Evaluation	Service Delivery	Contract change & variation Management	Contract Monitoring	Uniqueness
CPE5	0.848				0.156
CPE4	0.838				0.153
CPE6	0.837				0.197
CPE3	0.827				0.189
CPE2	0.797				0.187
CPE1	0.789				0.285
SD4		0.828			0.134
SD6		0.804			0.192
SD2		0.803			0.175
SD1		0.787			0.206
SD5		0.738			0.263
SD3		0.714			0.374
CVM4			0.819		0.176
CVM3			0.803		0.200
CVM6			0.793		0.259
CVM2			0.789		0.221
CVM1			0.783		0.295
CVM5			0.745		0.348
CM2				0.828	0.2546
CM1				0.796	0.219
CM4				0.795	0.206
CM5				0.782	0.294
CM3				0.742	0.396
CM6				0.741	0.341

Note. Applied rotation method is varimax.

The EFA findings were in agreement with the conceptual grouping of items into contract monitoring, change and variation management, contract performance evaluation, and service delivery (Costello & Osborne, 2005).

Measurement Model

Measurement models were developed from the retained factors as shown below;

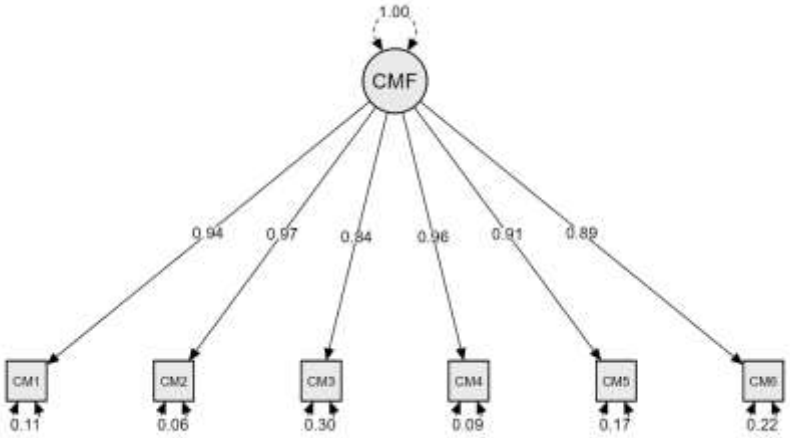

Figure 2: Estimated Congeneric Model Plot for Contract Monitoring Factor (CMF)

All the standardized factor loadings ranged from 0.84 to 0.97, hence above the threshold of 0.5, implying that all the items had substantial and statistically significant contributions to the underlying construct of the contract monitoring factor. The standard deviation ranged from 0.06 to 0.3, which were also below 0.80, confirming that a significant proportion of each indicator's variance was explained by the latent factor (Byrne, 2016).

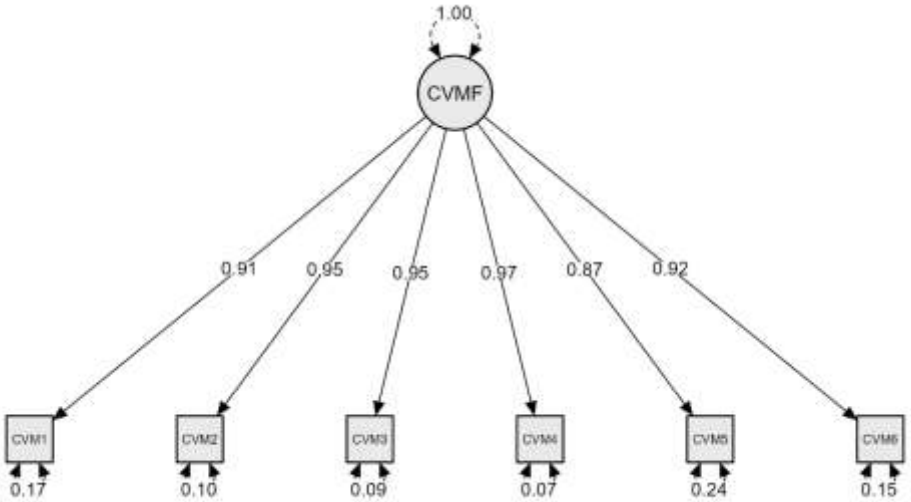

Figure 3: Estimated Congeneric Model Plot for Change and Variation Management Factor (CVMF)

All the standardized factor loadings ranged from 0.87 to 0.97, hence above the threshold of 0.5, implying that all the items had substantial and statistically significant contributions to the underlying construct of the change and variation management factor. The standard deviation ranged from 0.07 to 0.24, which were also below 0.80, confirming that a significant proportion of each indicator's variance was explained by the latent factor (Byrne, 2016).

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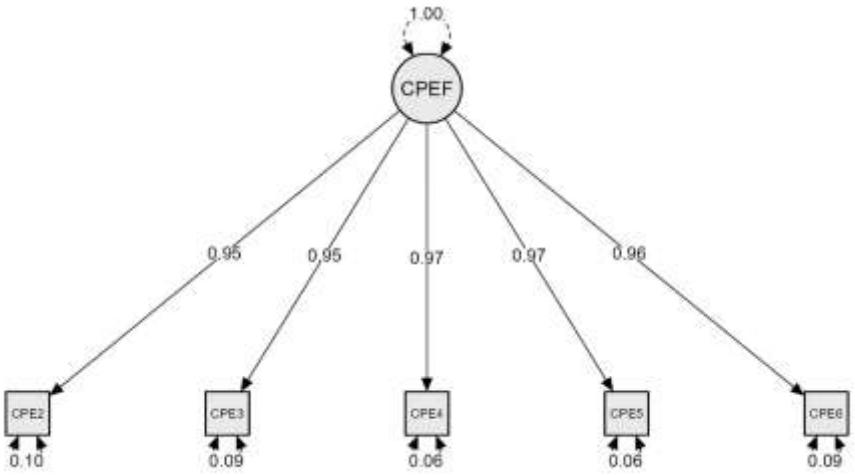

Figure 4: Estimated Congeneric Model Plot for Contract Performance and Evaluation Factor (CPEF)

All the standardized factor loadings ranged from 0.95 to 0.97, hence above the threshold of 0.5, implying that all the items had substantial and statistically significant contributions to the underlying construct of the contract performance evaluation factor. The standard deviation ranged from 0.06 to 0.10, which were also below 0.80, confirming that a significant proportion of each indicator's variance was explained by the latent factor (Hair, Black, Babin, & Anderson, 2019).

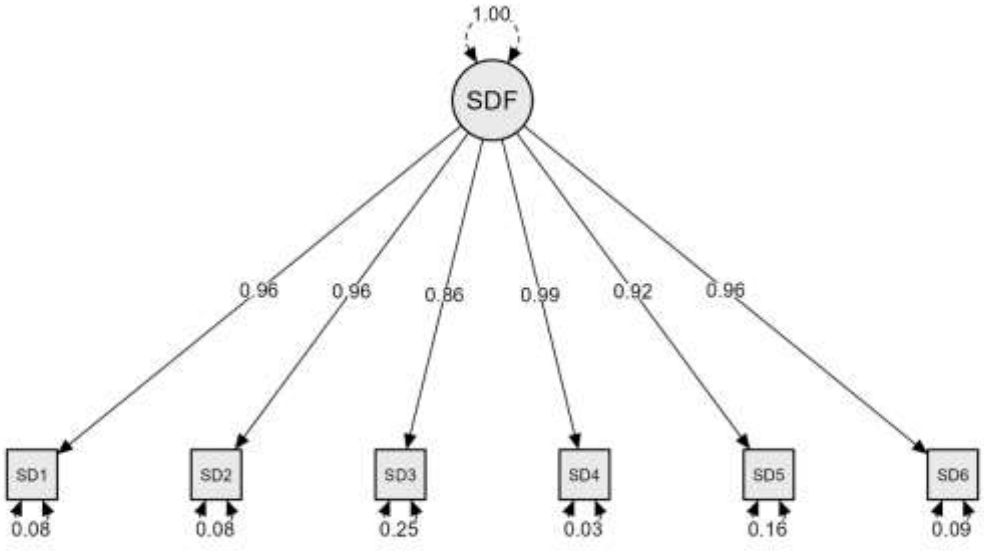

Figure 5: Estimated Congeneric Model Plot for Service Delivery Factor (SDF)

All the standardized factor loadings ranged from 0.86 to 0.96, hence above the threshold of 0.5, implying that all the items had substantial and statistically significant contributions to the underlying construct of the contract performance evaluation factor. The standard deviation ranged from 0.03 to 0.25, which were also below 0.80, confirming that a significant proportion

of each indicator's variance was explained by the latent factor (Hair, Black, Babin, & Anderson, 2019; Byrne, 2016).

Confirmatory Factor Analysis

In order to assess the measurement model, confirmatory factor analysis was conducted in Smart PLS 4 using composite reliability (CR), average variance extracted (AVE), and Cronbach's alpha to ensure construct validity (Table 4). While discriminant validity was ensured through the HTMT criterion (Table 5).

Table 4: Construct Validity

	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
CMF	0.840	0.848	0.852	0.770
CPEF	0.860	0.864	0.868	0.834
CVMF	0.945	0.852	0.856	0.784
SDF	0.853	0.855	0.862	0.810

The model findings in Table 4 revealed that Cronbach's alpha coefficients were from 0.860 to 0.945 as compared to the threshold of 0.7, hence implying satisfactory internal consistency.

Composite reliability coefficients, both (rho_c) and (rho_a), ranged from 0.848 to 0.868 and were above the threshold of 0.7, hence supporting the reliability of the constructs (Hair, Black, Babin, & Anderson, 2019; Raykov T. , 1997).

Average Variance Extracted (AVE) was employed to assess convergent validity, and the coefficients ranged from 0.770 to 0.834, exceeding the threshold of 0.5, implying that constructs explain a substantial portion of variance in their respective indicators (Hair, Black, Babin, & Anderson, 2019; Fornell, 1981).

Generally, the findings imply that the measurement model has adequate reliability and convergent validity.

Table 5: Heterotrait-Monotrait Ratio

CMF	CVMF	CPEF	SDF
1.000			
0.526	1.000		
0.488	0.507	1.000	
0.576	0.571	0.594	1.000

Heterotrait-Montrait (HTMT) ratio was used to examine the discriminant validity of the study, as presented in Table 5. All the ratios were below the recommended threshold of 0.85, implying that each construct is empirically distinct from the others, discriminant validity was established among the constructs.

Model Fit Assessment

Table 6: Fit Indices

Index	Value
Comparative Fit Index (CFI)	0.930
Tucker-Lewis Index (TLI)	0.910
Parsimony Normed Fit Index (PNFI)	0.790

Note. Except for the PNFI, the fit indices are scaled because of categorical variables in the data.

Based on the acceptable threshold, CFI > 0.90, RMSEA < 0.08, SRMR < 0.08, GFI ≥ 0.90, PNFI ≥ 0.6, and the proposed model exhibited a good fit to the data and was suitable for hypothesis testing (Brown, 2015; Raykov & Marcoulides, 2006; Schermelleh-Engel, Moosbrugger, & Müller, 2003).

Table 7: Other Fit Measures

Metric	Value
Root mean square error of approximation (RMSEA)	0.028
Standardized root mean square residual (SRMR)	0.037
Goodness of fit index (GFI)	0.993

Note. The RMSEA results are scaled because of categorical variables in the data.

Structural Model

Onyx was employed to examine the structural model by testing the hypothesized effects of contract monitoring, change and variation management, and contract performance evaluation on service delivery. Path coefficients (β – values), t- values, and p- values were examined to determine the strength and magnitude of each relationship.

Fit indices, which included Comparative fit index (CFI), Root mean Square Error of Approximation, and standard Root Mean Squared Error (SRMR), were employed to evaluate model fit.

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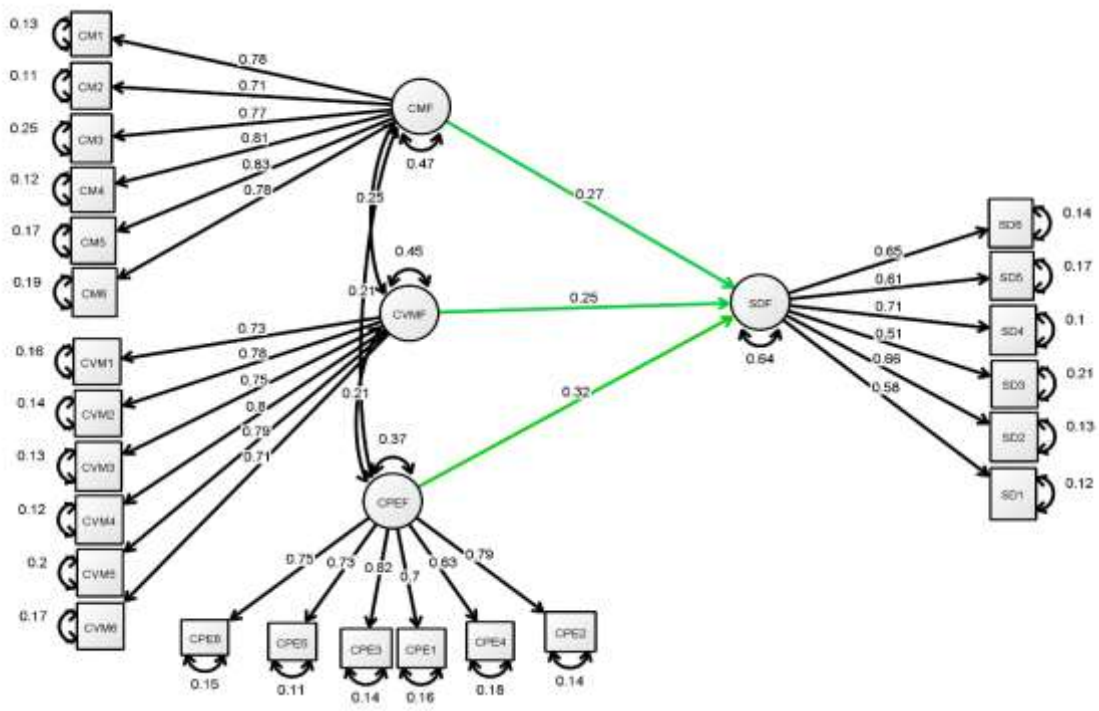

Figure 6: Structural Model

Table 8: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.687[a]	.472	.464	3.19846

a. Predictors: (Constant), CPEF, CMF, CVMF

Findings in Table 8 revealed that the model explains 47.2% (R^2 = 0.472) of the variance in service delivery (SDF), revealing a moderate explanatory power. The adjusted R^2 of 0.464 implies that the model is stable with minimal over-fitting *(Hair, Black, Babin, & Anderson, 2019).*

Table 9: Regression Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.387	1.202		1.986	.048
	CMF	.292	.068	.271	4.314	.000
	CVMF	.270	.068	.254	4.000	.000
	CPEF	.311	.060	.321	5.156	.000

a. Dependent Variable: SDF

Findings revealed that all the three predictors of the study contract monitoring (CMF), change and variation management (CVMF) and contract performance evaluation (CPEF) have a positive significant effect on service delivery with CPEF as the strongest predictor (β = 0.3211, t = 5.156, p < 0.01), followed by CMF (β = 0.2711, t = 4.314, p < 0.01), and CVMF (β = 0.254,

t = 4.000, p < 0.01). This implies that any increase in these variables significantly increases service delivery. The model demonstrates moderate explanatory power and agrees with the recommendations of *(Hair, Black, Babin, & Anderson, 2019)*.

Table 10: Summary of Hypotheses and SEM Structural Path Results

Hypothesis	Path	Beta(β)	t-value	P-value	Decision
H_1	CMF → SDF	0.271	4.314	0.000	Supported
H_2	CVMF → SDF	0.254	4.000	0.000	Supported
H_3	CPEF → SDF	0.321	5.156	0.000	Supported

Findings in Table 10 revealed that contract monitoring (β = 0.271, v = 4.314, p < 0.001), change and variation management (β = 0.254, v = 4.000, p < 0.001) and contract performance evaluation (β = 0.321, v = 5.156, p < 0.001) have positive and significant effects on service delivery and since all the t-values are above the threshold of 1.96 implying that the findings are significant at 5% confidence level (McClave, Sincich, & Benson, 2018; Hair, Black, Babin, & Anderson, 2019; Field, 2018). Contract performance evaluation was found to be the best predictor of public service delivery

Discussion

The discussion of the findings was in line with both the theoretical and empirical literature, particularly on contract monitoring, contract performance evaluation, change and variation management and service delivery.

Based on the findings, the study revealed that contract monitoring has a significant positive effect on service delivery (β = 0.271, v = 4.314, p < 0.001). The findings are in agreement with earlier findings, for example Onyanga, (2019) and Kakooza (2018), who argued that consistent contract supervision and tracking enhance accountability and performance in public sector projects. Similarly, inadequate monitoring has been found to result in project delays, cost overruns, and poor service delivery, as asserted by (Kenyi and Barasa, 2021) and (Abiola & Oladipo, 2020). In addition (Mlinga, 2018) and (Ameyaw, Mensah, & Osei-Tutu, 2012) emphasized that effective monitoring enhances compliance with contractual obligations and minimizes inefficiencies. Also (Basheka & Bisangabasaija, 2010) contend that the poor service delivery in Uganda is a result of a weak contract monitoring system. The findings are in agreement with the agency theory, which argues that monitoring reduces opportunistic behavior and ensures that agents perform in the best interests of the principals.

On the other hand, the findings are in disagreement with (Thai, 2009) who argues that monitoring alone may not significantly enhance service delivery and also argues that excessive oversight, lacking adequate enforcement capabilities or incentives, may cause bureaucratic delays instead of enhancing performance. This disparity may imply that contract management should be based on contextual factors, which include governance quality and institutional capability.

Change and variation management has a positive significant effect (β = 0.254, v = 4.000, p < 0.012) as revealed by the findings, and in contrast, the findings are consistent with (Rahman & Kumaraswamy, 2002) who argue that contractual changes should be handled properly to ensure project stability and achieve the projected outcomes. The findings also corroborate (Abiola & Oladipo, 2020), who claim that structured variation management significantly enhances project performance. The findings also support the argument by Ibbs, Wong, & Kwak (2001) that

managing variations well reduces disruptions and improves project performance. Moreover (Onyango, 2019) noted that unmanaged variations frequently result in inefficiencies and subpar service performance. It should be noted that variations are inevitable in contracts, and their effect is on how they are managed. Therefore, the findings are consistent with Public Value Theory, which encourages adaptability and responsiveness in public service delivery.

On the other hand, some studies have shown that managing variations has little or no effect on service delivery. For instance, Love, Smith, and Regan (2019) stressed that too many change to a contract could mean that the plannin was not good enough in the first place, which could affect service delivery. So even thoigh managing variations is important, how well it works depends on the type and amount of variations that are there.

Furthermore, the study found that contract performance evaluation is the greatest predictor of service delivery among this study's predictors ($\beta = 0.321$, $v = 5.156$, $p < 0.001$) and the findings are supported by Onyango, (2019) and Kenyi & Barasa, (2021), who argue that regular assessment of contractor performance improves service delivery and value for money. Furthermore, Abiola & Oladipo (2020) noted that performance evaluation mechanisms enable entities to detect deficiencies and ensure remedial measures. Literature also emphasises that performance evaluation offers essential feedback mechanisms that aid informed decisions. The significant effect of this variable in this study implies that contract performance evaluation is a key determinant of service delivery.

The findings strongly agree with Agency Theory since monitoring and performance assessments are key mechanisms for mitigating information asymmetry and ensuring responsibility. Furthermore, the findings are consistent with public value theory (More, 195; World Bank, 2021), which emphasises the importance of efficient, transparent, and responsive management techniques to improve service delivery.

Nevertheless, several studies present contradictory data. For example World Bank (2021) contends that performance evaluation methods in several developing nations frequently prove ineffectual owing to inadequate data quality, insufficient openness, and limited enforcement of evaluation results. Moore (1995) posts that performance assessment, in isolation, does ot provide enhanced public value unless it is combined with comprehensive governance and management changes. These conflicts suggest that performance evaluation systems must be carefully developed and efficiently executed to produce significant enhancements in service delivery.

CONCLUSION AND RECOMMENDATIONS

Conclusion

This study investigated the effect of contract management practices, specifically contract monitoring, change and variation management, and contract performance evaluation on service delivery in the public sector entities using a Structural Equation Modelling (SEM) technique. The findings revealed that all three contract management strategies have a positive and significant effect on service delivery.

Contract performance evaluation was found to be the greatest predictor, followed by contract monitoring, change, and variation management. The findings indicated that public sector organizations that emphasize systematic performance evaluation, ongoing monitoring, and proficient management of contract modifications are more likely to get enhanced service delivery.

The study confirmed that the measurement and structural models had adequate reliability, validity, and model fit, hence affirming the reliability of findings. The findings are consistent with Agency Theory, which emphasizes monitoring and evaluation as means to ensure accountability, and Public Value Theory, which stresses the significance of efficient and responsive management techniques in providing quality public services. The study concludes that improving contract management is essential for improving efficiency, accountability, and value for money in public sector service delivery.

Recommendations

Based on the study's results, the following suggestions are made: Public sector organisations should improve their contractor monitoring systems by using clear supervisory methods, regular progress reports, and tools for tracking performance. This will make sure that contractors follow the rules, deadlines, and requirements that have been set, which will improve service delivery.

Governments, through regulatory bodies like PPDA, should set up and follow clear rules for managing changes and variations. These rules should include how to start, approve, and document all changes to avoid delays, cost overruns, and inefficiencies that arise from improper variations management.

There must be formal procedures for doing a full evaluation of contracts. Using measurable metrics to regularly check on how well contractors are doing would make them more accountable, help people make better decisions, and encourage them to keep improving the services they provide

Legislators and regulatory agencies should set up capacity and enforcement measures to make sure that contract management needs training and skills in contract administration, monitoring, evaluation, and procurement.

Policy Implications of the Study

The findings of this study have significant implications for public sector policy and practice. Governments and regulatory bodies should prioritize changes designed to enhance contract management procedures as a means of improving service delivery. Critical emphasis should be on making public procurement procedures more transparent, accountable, and able to monitor performance.

Furthermore, new technology like electronic contract management systems may also make monitoring more efficient, data more accurate, and decision-making better, which can lead to improved service delivery.

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