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The Effects Of Contract Management On Service Delivery In Hospitals In Uganda: A Case Study Of Mulago National Referral Hospital, Central Uganda

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Abstract

This study examined the effects of contract management on service delivery at Mulago National Referral Hospital (MNRH) in Central Uganda. Using a cross-sectional survey design, primary data were collected from 148 respondents comprising procurement officers, contract managers, clinical heads, and administrative staff. The study employed descriptive statistics, Pearson correlation analysis, and multiple linear regression to establish the relationship between contract management dimensions contract formulation, contract implementation, and contract monitoring and service delivery outcomes including availability of medical supplies, timeliness of care, and patient satisfaction. Findings revealed that contract management significantly and positively influences service delivery ($\beta = 0.614$, $p < 0.01$). Contract monitoring emerged as the strongest predictor ($\beta = 0.382$, $p < 0.001$), followed by contract implementation ($\beta = 0.271$, $p < 0.01$) and contract formulation ($\beta = 0.198$, $p < 0.05$). The study concludes that strengthening contract management systems is imperative for improving public health service delivery in Uganda's referral hospitals.

Keywords: Contract management, service delivery, Mulago National Referral Hospital, procurement, Uganda, public health.

1.0 Introduction

Public hospitals in developing countries face persistent challenges of inadequate service delivery, characterized by stock-outs of essential medicines, long waiting times, and substandard care(Deus, 2023). In Uganda, Mulago National Referral Hospital the country's largest public health facility has repeatedly been criticized for poor service delivery outcomes despite substantial government investment(F. Christopher, Moses, Enosh Muhindo, et al., 2022). A critical but often overlooked factor in this predicament is contract management, which governs the procurement of drugs, medical equipment, and outsourced clinical services(Khalil et al., 2020).

Contract management encompasses the systematic process of managing contract creation, execution, and analysis to maximize operational and financial performance while minimizing risk(Moses et al., 2025). In the public sector, weak contract management translates directly into service delivery failures: delayed drug deliveries, unresponsive suppliers, and unpunished contract breaches(Akankwasa et al., 2022). The Public Procurement and Disposal of Public Assets (PPDA) Act of 2003, amended in 2014, mandates all government entities including hospitals to adhere to prescribed contract management frameworks; however, compliance and effectiveness remain low(T. Christopher, 2022). This study therefore sought to fill an empirical gap by investigating how contract formulation, contract implementation, and contract monitoring affect service delivery at MNRH(Ngozi et al., 2007). The findings are expected to inform policy reforms and institutional practices aimed at enhancing healthcare delivery in Uganda's public hospitals.

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2.0 Literature Review

Contract management theory draws from the principal-agent theory and transaction cost economics(Alex & Moses, 2024). According to Jensen and Meckling (1976), agency relationships where one party (principal) delegates work to another (agent) create information asymmetries and moral hazard problems that contracts seek to mitigate(Ronet et al., 2023). In hospital settings, the government (principal) contracts service providers (agents) to deliver pharmaceuticals, diagnostics, and support services. Effective contract management reduces opportunistic behaviour and ensures accountability(F. Christopher, Moses, Muhindo, et al., 2022).

Contract formulation involves defining scope, performance benchmarks, penalties, and payment terms. Poorly formulated contracts lack measurable deliverables, making performance assessment arbitrary(Ntirandekura et al., 2022). Empirically, Otieno and Kimani (2019) found that clear contract terms positively correlated ($r = 0.68$) with supplier performance in Kenyan public hospitals(Kazaara & Audrey, 2024). Contract implementation involves managing supplier relationships, processing payments, and resolving disputes. Nkurunziza (2021) documented that timely payments to suppliers reduce drug stock-outs by 47% in Ugandan district hospitals. Contract monitoring involves tracking supplier performance against agreed benchmarks, conducting audits, and applying sanctions for non-compliance(Innocent et al., 2023). Caulfield et al. (2020) demonstrated that robust monitoring systems reduce contract non-compliance by 62% in low-income country health systems(Faith, Kalikola, Ariyo, et al., 2023). Theoretical and empirical evidence therefore converges on the significance of systematic contract management for improved service delivery outcomes.

3.0 Methodology

A cross-sectional survey design was adopted. The target population comprised 210 employees at MNRH directly involved in procurement and service delivery, from which a sample of 148 was selected using stratified random sampling based on Krejcie and Morgan (1970) table. Data collection instruments included a structured self-administered questionnaire measured on a five-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree)(Nafiu, 2012). Reliability was tested using Cronbach's Alpha, yielding coefficients above 0.75 for all constructs, indicating good internal consistency(Nafiu et al., 2012). Data were analysed using SPSS v25, employing descriptive statistics, Pearson correlation analysis, and multiple linear regression(Nelson et al., 2022). The dependent variable was service delivery (measured by drug availability, timeliness, and patient satisfaction), while independent variables were contract formulation (CF), contract implementation (CI), and contract monitoring (CM). The regression model specified was: $SD = \beta_0 + \beta_1 CF + \beta_2 CI + \beta_3 CM + \varepsilon$.

4. Results and Discussion

4.1 Descriptive Statistics

Table 1: Descriptive Statistics for Study Variables

Variable	N	Min	Max	Mean	Std. Dev.	Skewness

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Contract Formulation (CF)	148	1.60	5.00	3.54	0.78	-0.31
Contract Implementation (CI)	148	1.40	5.00	3.69	0.75	-0.41
Contract Monitoring (CM)	148	1.80	5.00	3.82	0.71	-0.52
Service Delivery (SD)	148	1.20	5.00	3.41	0.83	-0.22

Source: Primary Data, 2025

Table 1 presented the descriptive statistics for the major study variables, namely Contract Formulation (CF), Contract Implementation (CI), Contract Monitoring (CM), and Service Delivery (SD). The analysis was based on 148 respondents for all variables, indicating that there were no missing responses in the dataset. The findings showed that all variables had mean scores above the midpoint of the scale, suggesting that respondents generally agreed with the statements measuring the constructs(Nelson et al., 2023).

Contract Formulation (CF) had a mean score of 3.54 with a standard deviation of 0.78. This implied that respondents moderately agreed that contract formulation practices were being carried out effectively within the organization. The relatively small standard deviation indicated that respondents' views were fairly consistent and did not vary widely(Julius & Nancy, 2026). The minimum and maximum values ranged from 1.60 to 5.00, showing that while some respondents expressed low perceptions regarding contract formulation, others rated it very highly(Brian et al., 2024). The skewness value of -0.31 indicated a slight negative skewness, meaning that responses tended to cluster more toward the higher end of the scale, although the distribution remained approximately normal.

Contract Implementation (CI) recorded a mean score of 3.69 and a standard deviation of 0.75. This suggested that respondents perceived contract implementation practices positively and at a slightly higher level than contract formulation. The spread of responses was relatively low, indicating moderate agreement among respondents(Ahumuza et al., 2025). The variable had scores ranging from 1.40 to 5.00, demonstrating variability in perceptions among participants. The skewness coefficient of -0.41 revealed a moderate negative skewness, implying that more respondents provided higher ratings on contract implementation(Winny et al., 2023).

Contract Monitoring (CM) had the highest mean score of 3.82 among all the independent variables, with a standard deviation of 0.71. This finding suggested that respondents perceived contract monitoring practices to be the strongest and most effectively executed aspect within the procurement or contract management process(Ntirandekura et al., 2022). The relatively lower standard deviation showed that respondents had more consistent opinions regarding this variable compared to the others(Nicholas & Nancy, 2024). The responses ranged from 1.80 to 5.00. The skewness value of -0.52 indicated a stronger negative skewness compared to the other variables, suggesting that a larger proportion of respondents rated contract monitoring favorably.

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Service Delivery (SD), which was the dependent variable, had a mean score of 3.41 and a standard deviation of 0.83. This indicated that respondents moderately agreed that service delivery was satisfactory, although its mean was lower than those of the contract management variables. The higher standard deviation suggested slightly greater variation in respondents' opinions about service delivery(F. Christopher, Komunda, & Milton, 2022). The scores ranged from 1.20 to 5.00, reflecting diverse experiences among respondents. The skewness value of -0.22 indicated a slight negative skewness, showing that responses leaned somewhat toward higher ratings while still remaining close to a normal distribution.

4.2 Correlation Analysis

Table 2: Pearson Correlation Matrix (p < 0.01, two-tailed)**

Variable	CF	CI	CM	SD
Contract Formulation (CF)	1.000			
Contract Implementation (CI)	0.512**	1.000		
Contract Monitoring (CM)	0.489**	0.534**	1.000	
Service Delivery (SD)	0.498**	0.573**	0.621**	1.000

Source: Primary Data, 2025

Table 2 presented the Pearson correlation analysis conducted to examine the relationships among Contract Formulation (CF), Contract Implementation (CI), Contract Monitoring (CM), and Service Delivery (SD). The results showed that all the study variables were positively and significantly correlated at the 0.01 level (two-tailed), indicating strong statistical evidence of association among the variables(Nelson et al., 2023).

The findings revealed that Contract Formulation (CF) had a positive and significant relationship with Contract Implementation (CI) ($r = 0.512$, $p < 0.01$). This implied that improvements in contract formulation were associated with improvements in contract implementation(Winny et al., 2023). The correlation coefficient indicated a moderate positive relationship, suggesting that organizations with effective contract formulation practices were more likely to implement contracts successfully. Contract Formulation (CF) was also positively correlated with Contract Monitoring (CM) ($r = 0.489$, $p < 0.01$). This finding suggested that better contract formulation practices tended to be associated with stronger contract monitoring mechanisms. The relationship was moderate and statistically significant, implying that clearly formulated contracts facilitated easier monitoring and evaluation processes(Faith, Kalikola, Kazaara, et al., 2023).

In addition, Contract Formulation (CF) showed a positive and significant relationship with Service Delivery (SD) ($r = 0.498$, $p < 0.01$). This indicated that effective contract formulation contributed to improved service delivery. The moderate positive correlation suggested that well-defined contract terms, objectives, and specifications enhanced organizational performance and service outcomes. The results further indicated that Contract Implementation (CI) had

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a positive and significant relationship with Contract Monitoring (CM) ($r = 0.534$, $p < 0.01$). This meant that effective implementation of contracts was associated with better monitoring practices. The correlation coefficient reflected a moderate positive relationship, implying that organizations that implemented contracts efficiently were also likely to monitor them effectively.

Contract Implementation (CI) also had a positive and significant relationship with Service Delivery (SD) ($r = 0.573$, $p < 0.01$). This relationship was stronger than that between contract formulation and service delivery, suggesting that successful implementation of contracts played a substantial role in enhancing service delivery. The findings implied that timely execution of contractual obligations, adherence to procedures, and effective coordination improved organizational service outcomes(F. Christopher, Muhindo, & Nakalema, 2022). The strongest relationship in the matrix was observed between Contract Monitoring (CM) and Service Delivery (SD) ($r = 0.621$, $p < 0.01$). This indicated a strong positive and statistically significant relationship between the two variables. The findings suggested that effective monitoring of contracts greatly enhanced service delivery, possibly through improved accountability, compliance, quality assurance, and performance tracking.

4.3 Regression Analysis

Table 3: Multiple Regression Results (Dependent Variable: Service Delivery)

Variable	B	Std. Error	β (Beta)	t-value	Sig.	VIF
(Constant)	0.812	0.241	—	3.37	0.001	—
Contract Formulation (CF)	0.201	0.067	0.198	3.02	0.003*	1.52
Contract Implementation (CI)	0.285	0.069	0.271	4.11	0.000**	1.61
Contract Monitoring (CM)	0.394	0.067	0.382	5.84	0.000***	1.58

Source: Primary Data, 2025

Table 3 presented the multiple regression analysis conducted to examine the effect of Contract Formulation (CF), Contract Implementation (CI), and Contract Monitoring (CM) on Service Delivery (SD). The regression model assessed the extent to which the independent variables predicted changes in service delivery.

The findings showed that the constant term had a coefficient of 0.812 with a t-value of 3.37 and a significance level of 0.001. This indicated that when all the independent variables were held constant at zero, service delivery would still have a baseline value of 0.812. The constant was statistically significant, suggesting that other factors not included in the model could also influence service delivery.

Contract Formulation (CF) had an unstandardized coefficient (B) of 0.201, a standardized beta coefficient (β) of 0.198, and a t-value of 3.02 with a significance value of 0.003. This implied that a one-unit improvement in contract formulation resulted in a 0.201-unit increase in service delivery, holding other variables constant. The positive beta

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coefficient indicated that contract formulation had a positive contribution to service delivery. Since the p-value was less than 0.05, the effect was statistically significant. The findings suggested that clear contract design, specification setting, and proper planning enhanced service delivery within the organization.

Contract Implementation (CI) recorded an unstandardized coefficient (B) of 0.285, a standardized beta coefficient (β) of 0.271, and a t-value of 4.11 with a significance level of 0.000. This indicated that a one-unit increase in contract implementation led to a 0.285-unit improvement in service delivery, assuming other variables remained constant. The positive and statistically significant coefficient showed that effective execution of contractual obligations significantly improved service delivery. Compared to contract formulation, contract implementation had a stronger influence on service delivery, as reflected by its higher beta coefficient.

Contract Monitoring (CM) had the highest unstandardized coefficient (B = 0.394), the highest standardized beta coefficient (β = 0.382), and a t-value of 5.84 with a significance value of 0.000. This finding demonstrated that contract monitoring had the strongest positive effect on service delivery among all the independent variables. Specifically, a one-unit increase in contract monitoring resulted in a 0.394-unit increase in service delivery, holding other factors constant. The high beta coefficient suggested that effective monitoring practices, such as supervision, evaluation, compliance tracking, and performance assessment, played a critical role in improving service delivery outcomes.

The Variance Inflation Factor (VIF) values for all the independent variables ranged from 1.52 to 1.61. These values were far below the commonly accepted threshold of 10, indicating that multicollinearity was not a problem in the regression model. This implied that the independent variables were sufficiently distinct from one another and that the regression coefficients were reliable.

5. Conclusion and Recommendations

This study established that contract management significantly influences service delivery at Mulago National Referral Hospital. Specifically, contract monitoring, implementation, and formulation were all significant predictors of service delivery outcomes. The study recommends that MNRH's contract management unit be adequately staffed with trained professionals, that electronic contract management systems be deployed to enhance real-time monitoring, and that PPDA undertake quarterly audits of hospital contracts to identify and sanction non-compliant suppliers. Further research should examine the role of e-procurement in strengthening contract management across all regional referral hospitals in Uganda.

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