Contract Package as an Antecedent of Value for Money: The Mediating Role of Competitive Procurement.

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Abstract

Given the limited resources available to the government institutions, value for money in procurement is crucial to ensuring the optimal use of finite budgetary resources. This study delves into contract package as an antecedent of value for money; competitive procurement as a mediating role. Fifty-three (53) pre-university educational institutions in the Eastern region of Ghana were selected for the study. Two research objectives were examined whilst two research hypotheses were tested. This study is a quantitative one, which employed purposive and simple random sampling techniques. Using the Confirmatory Factor Analysis (CFA) and Structural Equation Model (SEM) for data analysis, the study found no relationship between contract package and value for money. Again, the study revealed that competitive procurement failed to exert significant effect or influence on contract package and value for money linkages. The study recommended that appropriate procurement process at the public sector is highly required to generate wealth, enhance transparency and accountability, encourage consistent procurement procedures and lessen corruption. Through this, value for money can be achieved.

Keywords: Contract Package; Competitive Procurement; Value for Money; Pre-university Educational Institutions.

1. Introduction

Procurement plays a crucial role in the delivery of government services, but efficiency is influenced by a variety of constraints [1].

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Public sector procurement accounts for between 50% and 70% of total government spending, accounting for about 10% of Gross Domestic Products (GDP) and financial reports for about 24% of total imports [2]. A reform in the public sector procurement process would, without confusion, create wealth, improve transparency, promote transparent procurement processes and minimize corruption [2]. As an effective way to invest limited resources on the public sector and donor funds, relevant qualifications, competencies and experience and related best practices must be identified by the public procurement staff with a clear aim to gain value for money [3] thus showing that the procurement roles are not well-resourced and given the basic mandate and value for money. Reference [4-6] discussed the need for contract aggregation in the planning of the procurement strategy in general and left a significant information gap on its significance in the search of value for money. The Public Procurement (Amendment) Act 2016 (Act 914), as amended, obliges PEs to combine the needs, where possible in order to obtain value for money, to prevent emergencies and to use the contractual system to procure widely used goods and services to make the procurement process more functional, versatile and cost-effective; avoiding the separation of procurement, which seeks to defeat the competitive process and to incorporate the procurement into the spending plan, there is a woefully insufficient analysis on the impact of successful contract aggregation/package/lot arrangement and its relationship to competitive procurement as variables that affect the value for money. On 31 December 2019, the Auditor General's Report of Ghana reported that pre-university educational institutions breached the Public Procurement (Amendment) Act 2016 (Act 914), on discrimination against contract awards by granting contracts without the involvement of suppliers. Moreover, the Ghana Audit Report on pre-university institutions (2019) indicated that there was a lack of competition in the award of contracts as one of the key problems facing the pre-university educational institutions. The report revealed that three schools could not explain the cumulative payments Ghs 80,150.00 made for the procurement of goods and services in contravention of Rule 78 of the Public Financial Administration Regulation, 2019, the report underscored the breach of Section 43(1) of the Public Procurement (Amendment) 2016 (Act 914). Similarly, In relation to section 20 of the Legislation on Public Procurement (Amendment) Act 2016 (Act 914), eight institutions engaged in the non-competitive acquisition of goods, works and services to the tune of GH 565,453.97 (Auditors General Report, 2019). Again, two heads of institutions procured goods, works and services well above their threshold totally, Ghs 341,895.00 in contravention of Section 18 of the Public Procurement Act, 2003 (Act 663) as amended by Section 6 of the Public Procurement Act, 2016. In addition, some other schools failed to prepare a procurement plan for their procurement activities for the 2019 fiscal year but did procure items involving a total amount of GH of 61,872.00. Contrary to Part III of Act 914 of 2016 (Section 21). Finally, Section 7 of Public Financial Management Law 2019 specifies that the Principal Spending Officer of the agency concerned shall approve obligations within the ceiling set by the Minister. In comparison to the provisions set out above, the administration of three schools spent a combined amount of Ghs 634,885.13 on goods and services for the duration under review without an authorized budget. The lack of an approved procurement plan encourages unplanned procurement and non-competitive procurement. The report further explains that the plan will help to achieve harmonization of applications, standardization of equipment as well as possible economies of scale in procurement that lead to value for money (Auditor-General's Report, 2019). Notwithstanding the Government's efforts to strengthen the procurement system, the shameful discrimination between suppliers, contractors and consultants in goods, works and services of low quality, as detailed in the Ghana Auditor-General's Report for 2017 to 2019, is still in jeopardy. In deciding on the optimum packaging of

the planned contracts, the PEs shall, where appropriate, aggregate procurement requests for the realization of value for money. Be that as it may, the inverse is now imagined in most public sector organizations that contract packages are designed in the interests of the authorities and subsequently awarded to some incompetent contractors who, by questionable means, discover their routes to the public procurement net and misuse state reserves for the sake of contact deals through sole or single-source procurement and breach of public procurement.

1.1   Effect of Contract Package on Value for money

In order for each financial year to anticipate its yearly requirements and to approximate procurement costs that will enable it to link its budget with public funding costs, each contracting entity shall be responsible for the planning of its purchase requirements for each financial year. Section 21 of the Public Procurement (Amendment) Act 2016 (Act 914) obliges PEs to combine their conditions to obtain value for money, prevent emergency procurement, and use system contracts in procurement, quality and consistency and cost-effectiveness in the procurement process for widely used products and services to avoid separating. Basheka (2008) argued that the aggregation of requirements takes into account the market structure of the items requested, a similar nature of the items likely to attract the same potential bidders. Strategies for aggregate purchases may directly or indirectly benefit public tenderers, contracting authorities and taxpayers. Strategies for aggregate purchases generate positive effects in the awarding of public contracts over the competition process. These are achieved by encouraging competition among operators, lowering purchase prices, suppressing duplicated procedures and public expenditure reduction to achieve better value for money. The rationale for economics behind aggregation is based on public purchasing market power accumulation through the exercise of bargaining power [9] and the creation of bureaucratic economies of scale [10]. Reference [11] Outlines two ways of accumulating public market power, including making purchases for other contracting authorities by employing a single contracting authority and collaborating with public-public organizations through occasional joint procurement. Techniques of aggregated purchase according to [11], Generates the scale of bureaucratic economies as transaction costs and total tenders decrease, thus improving operational efficiency in centralized framework agreements or dynamic purchasing systems. In addition, aggregate purchases seek to maximize profits by pooling the purchasing market power of the public. In line with microeconomic theory, the [12] can enforce purchasing power alongside its suppliers and achieve better terms and conditions when entering into public contracts. This is achieved by adopting strategies for aggregated purchases. Aggregated purchases, according to [13,14], encourage the creation of bargaining power that is non-abusive has sound economic justifications. Contrarily to this, aggregate purchases tend to be inefficient if they produce monopsony effects. [14] concluded that effective aggregated buying strategies result in an improvement in consumer purchasing power, the benefits of exploiting agreements and an increase in technological expertise. From the [13,14] reviews, it is clear that aggregate purchases called contract packaging have a link to value for money in the procurement process. However, it has rarely been explored in literature. This, therefore, underscores the first research hypothesis that;

H1: *"Contract packaging has a positive effect on value for money"*

1.2   *Effect of Competitive Procurement on value for money*

Procurement by competition is a crucial element in gaining value for money in public procurement policies (PPPs). According to [4], the case for VFM is made easier to explain when a competitive tender for the award of a PPP proposal is used. Using competitive procurement as stated [15], goods and services are delivered efficiently. They further elaborate on a competitive market model that integrates many markets, including buyers and sellers on a large scale, quality and cost of production knowledge and negotiations on an unarmed basis [15]. Again found out that, under these models, the economy would be a manufacturer and an allocator of services that would be equivalent to the public sector. Good public procurement includes a system of public procurement regulations, rules, practices and procedures, the encouragement of effective competition through procurement approaches relevant to business requirements and prospective vendors and service providers, and the absence of bias and favouritism in making access to procurement opportunities rational [16]. PPP may represent value for money if it depends on the transfer of sufficient risk, the effective design of the contract aggregation and competition. Procurement should still be motivated by the goal of competition, unless there are valid grounds not to do so. Competitive procurement continues to be the only way to achieve the best value for money and to demonstrate accountability and integrity. Procurement agencies must show that agreements reflect the pursuit of the highest offer where competition is not feasible under the circumstances. This, therefore, underscores the first research hypothesis that;

H2: *"Competitive procurement has a positive effect on money"*

1.3   *Conceptual Model*

The conceptual framework used in this study is a synthesis of the literature on how to describe a phenomenon. It describes the tasks needed in the course of the report, based on prior experience of the point of view of other researchers and insights on the topic of the research [17]. In carrying out the study, a conceptual framework is developed to demonstrate the interaction between independent and dependent variables. In this analysis, value for money is a dependent variable and a contract package is an independent variable. Also, the model reveals the relationship between the mediating positions of competitive procurement.

Figure 1

Source: Authors Model, 2020

2. Methodology

Two-stage sampling procedures were used. At the first phase of the survey, 53 pre-university educational institutions were sampled purposively out of the 53 pre-university educational institutions. The level of procurement work carried out by this district and the activity of its procurement committee members influenced the selection. The second phase was a simple random sampling procedure of the members of the procurement committee. In all, five (5) respondents were sampled from each of the pre-university educational institutions totalling one hundred and five (105) sampled respondents. The questionnaire and the focus group discussion were used to collect the data. Approximately 68.6 percent answer rate was returned to one hundred and five (105) questionnaires. The study was purely quantitative. Confirmatory Factor Analysis (CFA) was done to confirm appropriate variables and Structural Equation Model (SEM) was also used to draw the effect.

3. Final results and considerations

3.1 Reliability and Validity

The study used version 13 of the Stata to evaluate all the scales of the CFA in order to determine the efficiency and validity of the measurements. The CFA was the software to classify any problem indicators to be evaluated by the build. Many products were withdrawn from the models after purification because the factor was incorrectly loaded. As recommended by [17] the criterion was 0.4. Composite reliability was the upper limit for true reliability with the following values: contract package (0.829), competitive procurement (0.791) and value for money (0.811) as seen in Table 4.1. The results found that all variables had a high degree of internal precision of reliability above the level of 0.70 [18] and thus confirmed the reliability of the variables. The loading factor tested the validity of the designs of the sample ([19]. As seen in Table 4.1, all things intended to calculate a given construction, which was heavily loaded on the construction, were assembled to be weighed, thereby confirming the authenticity of the pieces. Final markers have been seen in the list of items, the respective standardization of factor loadings and t-values, as well as the results of validity tests, indicating positive and relevant loadings for the convergence of the measures used in the study. The result shows that validity is acceptable; thus exceeding the minimum cut-off criterion [17] the average variances extracted were higher relative to mutual variances between contracts, which implies satisfactory discriminant validity [20].

Table 4.1: Reliability and Validity Result

	Variables	Factor Loading	T Values	Construct Validity	Cronbach's Alpha	Composite Reliability	AVE	Highest VIF	Highest Correlation
Contract package	CP1	.3963142	4.66	**0.790**	.829	.884	.653	1.01	.4531
	CP2	.7044703	7.53						
	CP3	.8497	8.23						
	CP4	.8682931	6.66						
	CP5	.8849222	6.97						
Competitive Procurement	CPr1	.5801992	7.51	**0.663**	.791	.862	.717	1.01	.1673
	CPr2	.6141382	4.67						
	CPr3	.7822316	8.18						
	CPr4	.7934237	12.40						
	CPr5	8434672	12.97						
Value for Money	VfM1	.3061554	3.76	**0.798**	.811	.893	.792	1.01	.5487
	VfM2	-.991840	-94.21						
	VfM3	-.949993	-71.69						
	VfM4	-.824227	-27.91						
	VfM5	-.716568	-9.99						
	VfM6	-.960729	-12.56						
	VfM7	-.4850207	-5.83						
	VfM8	-.5873647	-6.354						
	VfM9	-.7475832							

3.2   Correlation Matrix

Table 4.2: Result on Correlation Matrix

	Contract Package	Competitive Procurement	Value for Money	VIF	AVE	Highest correlation
Contract Package	1			1.01	.653	.4531
Competitive procurement	0.0516*	1		1.01	.717	.1673
Value for Money	0.0516*	0.0300*	1	1.01	.792	.5487

Source: Field Survey, 2020

A multicollinearity test was conducted using Variance inflation factor (VIF) and correlation statistics to determine if the frequency of relationship between the variables determines further statistical analysis. In the case of hardness, it is suggested that the VIF be below 10, while the correlation figures do not exceed 0.7. [21 & 22]. As seen in Table 4.2, all variables were within the spectrum shown in the literature, except for the relationship between them. However, the Average Variance explained (AVE) is higher than the full correlation which implies that the variables are ideal for research purposes.

3.3   Effect of Contract package on Value for Money

Table 4.3: Effect of Contract package on value for money

Independent Variables	Coefficient.	OIM std. err	Z	P>|z|	[95% Conf.	Interval]
Contract package	0.1312923	0.2525561	0.432	0.482	-.3600921	0.6345581
Dependent variable: Value for Money						

Source: Field Survey, 2020

The first objective of the study is to determine the effect of the contract package on value for money. Compared to Table 4.3 the result reveals that the contract package's coefficient value is 0.1312923, which indicates a positive impact on value for money effect. However, the contract package is statistically insignificant and the predictor does not make any special contribution to the value-for-money projection with a P-value of 0.432 and a Z-value of 0.482. This therefore suggest that contract package design fail to follow the required procedures underpinning the Public Procurement Amendment Act 2016 (Act 914) resulting flaws within procurement systems at the selected pre-university institutions. This is therefore congruence within the indication by OECD (2009) in accordance with microeconomic theory, are able to enforce buyer power alongside its suppliers and

achieve better terms and conditions when entering into public contracts. This is obtained by adopting strategies for aggregated purchasing. Aggregated purchasing, according to OECD (2009) and CHEN (2007) fosters the creation of bargaining power that is non-abusive has sound economic justifications.

3.4   *Mediating role of Competitive Procurement between Contract package and VFM*

The research assesses the mediating effects of competitive procurement or bidding on the relationship between the contract package and value for money. The product of the Structural Equation Model (SEM) from the direct, indirect and cumulative performance effects is presented below. Several approaches for the testing of theories on mediation have been suggested [23]. One of the widely used strategies is the casual step technique suggested by [22], where the investigator calculates the paths of the model using the Ordinary Least Square (OLS) regression or SEM, which measures the degree to which certain parameters are met. [23] proposed three important but not appropriate criteria that should be met to argue that mediation is taking place. For the state of mediation: X (Independent Variable) is strongly connected to M (Mediator); M is significantly related to Y (Dependent Variable). When M is in the model, the relationship between X and Y decreases. It suggested that each of the three construct showed signs of a non-zero monotonic relationship with one another and the relation between X and Y was dramatically decreased with the addition of M as the Y predictor [23]. The research investigated this effect using the structural equation model. Figure 4.1 indicate the model figure and result.
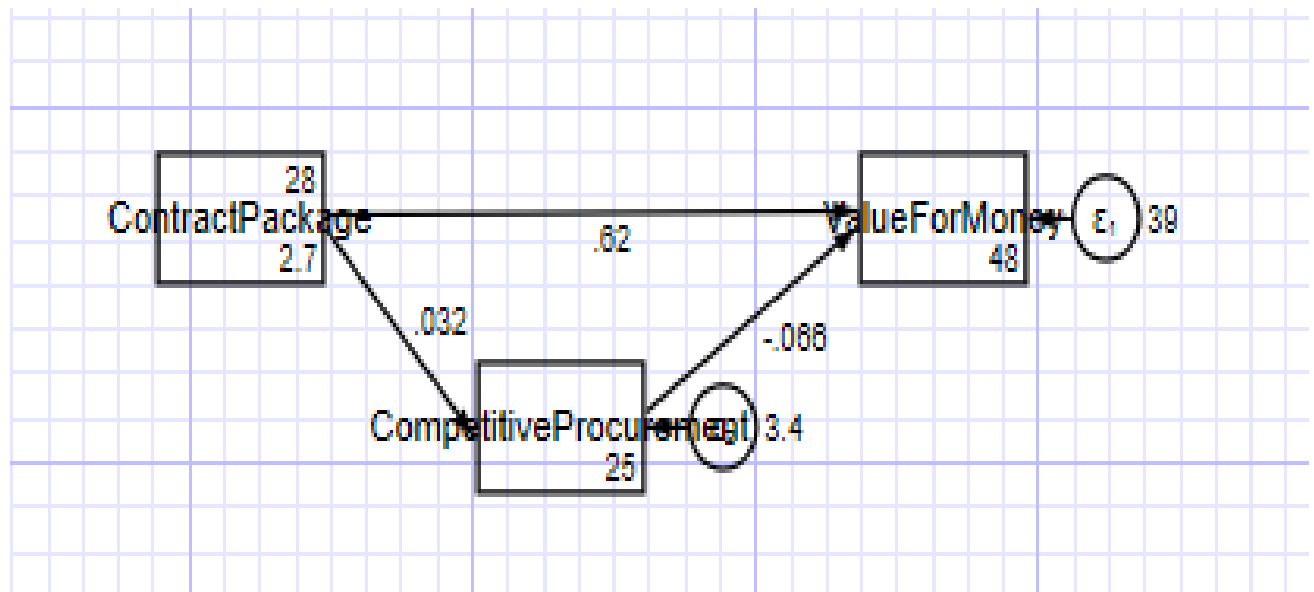

Figure 4.1: Fitting target model: Structural Equation Model

Iteration 0:   log likelihood = -517.77548

Iteration 1:   log likelihood = -517.77548

Structural equation model Number of obs   =   72

Estimation method = ml

Log likelihood   = -517.77548

	OIM				
	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]
Structural					
Value for Money					
Competitive Procurement	-.066188	.4003823	-0.17	0.869	-.8509228 .7185468
Contract Package	.6214761	.44484	1.40	0.162	-.2503943 1.493346
_cons	47.61347	15.99678	2.98	0.003	16.26036 78.96658
Competitive Procurement					
Contract Package	.0318968	.1308831	0.24	0.807	-.2246295 .288423
_cons	24.981	3.674712	6.80	0.000	17.7787 32.18331
Var (e. Value for Money)	38.74204	6.457007			27.94574 53.7093
var(e. Competitive Procurement)	3.356606	.5594344			2.421216 4.653367

LR test of model vs. saturated: chi2 (0)   =   0.00, Prob > chi2 =

The consequence of the structural equation indicates the mediating effect of competitive procurement on the relationship between the contract package and value for money. The result indicates the observed value of 72, showing the number of respondents who attended the indicators during data collection. The confidence interval or level was 95% while the significant level was 0.05. The result using the model coefficients and the significant values indicates that competitive procurement is statistically insignificant and could not impact on the relationship between the contract package and the value for money as shown [Coeff].= -0.066188, p = 0.869 >

0.05]. Similarly, LR test model also confirms such indication shown as (chi2 (0) = 0.00, Prob. > chi2). This shows that competitive procurement fails to predict or influence contract package and value for money linkages. This therefore contradict the indication by Mlinga (2007), that procurement that is driven by the objective of procuring competitively unless there are convincing reasons not to procure in such manner has the propensity of exerting significant effect on value for money. This also has the propensity of mediating effectively the relationship between contract package and value for money. The author argued that competitive procurement remains the best way of achieving best value for money and demonstrating transparency and integrity on contract packages.

4. Conclusion

The results clearly demonstrate that contract package does not have an effect on money for money. It is suggested that the design of the contract package lacks the details required to achieve consistency. Contract package preparation should also be considered as a core aspect of procurement in the study area. It is important for the government to take a closer look at how the contract package is designed by the study area. Furthermore, the analysis reveals that competitive bidding does not affect the contract package and value for money linkages.

5. Recommendations

It is recommended that policies and strict laws should be instituted to ensure that procurement activities at pre-university institutions comply with the Public Procurement laws and regulations of Ghana. This would make people desist from acts of corruption that negatively impact effectiveness, efficiency and quality of procured goods/services. It is also recommended that training and seminars are done to increase the knowledge level of individuals who work directly with procurement activities.

6. Limitations of the study

The scope of the research and its subsequent collection of data were limited to the eastern region of Ghana due to time constraints and resource constraints. The findings are generalized to include other regions in Ghana as the conditions prevailing in the Eastern Region are fairly representative of the conditions prevailing in other regions of Ghana. However, the actual data collection from other regions may result in slightly different results. This research also used survey methodology that depended on the response of procurement officers to their organizations. There is a likelihood of bias in the respondent. However, the study to further investigate this discovery could not be carried out. This was due to the fact that the data obtained was biased considerably against public institutions, with no data originating from the private sector.

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