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Article

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MANAGEMENT | RESEARCH ARTICLE

Procurement skills and procurement performance in public organizations: The mediating role of procurement planning

Ismail Abdi Changalima^{1*} and Anjela Ewald Mdee²

Abstract: Skills are important qualities that procurement practitioners should have because they are relevant to procurement activities. Given its significance, this study investigates the influence of procurement skills on procurement performance in public organizations in Tanzania. Furthermore, the study investigates the mediating effect of procurement planning on the relationship between procurement skills and procurement performance. A cross-sectional study was conducted, with data collected from public procurement practitioners in Dodoma City, Tanzania, using a structured questionnaire. To ascertain the hypothesized relationships, structural equation modeling was used. The findings indicate that procurement skills have a positive and significant influence on procurement performance in Tanzanian public organizations. Furthermore, procurement skills and procurement planning are significant and positively related and procurement planning significantly influences procurement performance. Finally, procurement skills have an indirect influence on procurement performance through procurement planning. The study concludes that procurement planning mediates the relationship between procurement skills and procurement performance. Therefore, procurement skills should be used to improve procurement planning in public organizations and procurement performance. In this regard, public organizations should ensure that practitioners are adequately trained to improve their skills in preparing and

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PUBLIC INTEREST STATEMENT

This study examines the direct and indirect effects of procurement skills on procurement performance. According to the findings, procurement skills have direct effects on procurement performance and also, procurement skills indirectly influence procurement performance through procurement planning. Therefore, procurement skills are important for improving procurement planning, and procurement planning improves procurement performance. In this regard, procurement skills should be used to improve procurement planning and performance in public organizations. Public organizations should ensure that practitioners receive adequate training to expand their skills in developing and implementing procurement plans for improving procurement performance.

implementing procurement plans for improving procurement performance in their respective organizations.

Subjects: Public Management; Business; Management and Accounting; Supply Chain Management

Keywords: procurement; public procurement; procurement skills; procurement planning; procurement performance

1. Introduction

The performance of the procurement function in public organizations has attracted a wide range of research from different angles across the globe (Changalima et al., 2022b; Gichuki & Paul, 2020; Musewe & Gekara, 2021; Ravenda et al., 2020). This is due to the fact that the magnitude of government expenditures is quite high in most countries that attract research on public procurement performance (Hafsa et al., 2021; Organisation for Economic Co-operation and Development (OECD), 2021). In OECD countries, procurement expenditures account for approximately 29.1% of gross domestic product (GDP; Organisation for Economic Co-operation and Development (OECD), 2019). In most developing countries, it is 50% or higher (Knack et al., 2019). In Tanzania, the procurement of goods, services, and works in the public sector is considered the country's second largest government expenditure after personnel emoluments (Kajimbwa, 2018).

Given the economic importance of public procurement activities and the amount of public money directed toward the procurement function, it is critical to ensure that the function is performing well at both the individual organization and national economic levels (Changalima et al., 2021). However, due to mismanagement and malpractices, the performance of procurement activities in various organizations is not so appealing in the eyes of both stakeholders and academics (Changalima et al., 2022c; Basheka, 2021; Hui et al., 2011). According to studies, there are issues related to poor procurement practices. For example, a study conducted in the Czech Republic and Slovakia found that excessive bureaucracy was the most important factor affecting public procurement efficiency, followed by the unethical behavior of procurement officials in the public sector (Nemec et al., 2020). Furthermore, procurement challenges have been reported in Zimbabwe (Dzuke & Naude, 2015), unethical conduct for procurement practitioners in Uganda (Basheka & Bisangabasaija, 2010), Kenya (Ayoyi & Mukoswa, 2015), and Nigeria (Ebekozen, 2019).

To achieve the desired procurement performance, the function must always be performed efficiently and effectively while adhering to good governance and professional etiquette principles (Mchopa, 2020). Organizations must make certain that procurement practitioners are fully equipped with the necessary procurement skills in order for procurement activities to be performed to a high standard (Basheka, 2010; Changalima & Ismail, 2019). This is in support of the human capital theory, which considers skills to be necessary possessions that humans can have (Becker, 1962). Procurement practitioners have confidence in having certain skills as important tools for improving procurement activities (Bals et al., 2019; Mwagike & Changalima, 2022). In this regard, procurement management skills are critical for government procurement activities. Furthermore, procurement skills have been linked to the ease with which procurement activities such as supplier management, problem solving, and communicating needs and planning can be facilitated (Basheka, 2010; Changalima & Ismail, 2019).

Most of the surveyed literature prioritized the topic "procurement skills" due to the critical role that practitioners with adequate procurement skills play in ensuring effective and efficient procurement activities (Mwagike & Changalima, 2022; Tassabehji & Moorhouse, 2008). Despite the fact that procurement planning can be done effectively with practitioners who have procurement skills (Basheka, 2009, 2010), empirical evidence on the contribution of procurement skills to procurement planning and performance is limited. The majority of existing literature in this field

of study indicates that procurement planning can be used to explain procurement performance (Kariuki & Wabala, 2021; Kiage, 2013; Salim & Kitheka, 2019). These studies, however, fall short of analyzing the role of procurement skills in procurement planning and, as a result, procurement performance. To fill this gap, the current research focuses on understanding the effect of procurement skills on the procurement performance of public organizations with mediating effect of procurement planning. Most studies in developing countries, particularly in Africa, have emphasized procurement planning as an important component of improving value for money procurement (Aimable et al., 2019; Changalima, 2016; Changalima et al., 2022a), which is critical in the public procurement function (Mchopa, 2015; Mwaiseje & Changalima, 2020).

Generally, the focus of this study is on understanding the extent to which procurement planning mediates the relationship between procurement skills and procurement performance. Hence, this study attempts to use procurement planning as a mediator to explain the relationship between procurement skills and procurement performance. The idea is to improve procurement performance in government organizations by enhancing procurement planning activities. The mediation analysis is useful in predicting how procurement planning intervenes in the causal effect of procurement skills on performance, and thus has theoretical and practical contributions. The study adds to the body of knowledge on improving procurement performance through procurement skills and procurement planning. Furthermore, the study may serve as a basis for public procurement practitioners to improve their skills and knowledge in procurement planning in order to improve procurement performance in their respective organizations.

2. Prior studies and hypotheses development

2.1. Procurement skills and procurement planning

In general, skills are regarded as relevant characteristics that practitioners within organizations must possess in order to facilitate organizational operations. Procurement planning is one of the organizational operations that includes activities related to determining requirements, procurement methods, and timing for making purchases (Changalima et al., 2022a). According to Baily et al. (2022), procurement activities include, but are not limited to, preparing requirements, locating suppliers and service providers to meet the needs, evaluating potential suppliers, and rating engaged suppliers. All of these activities require the necessary skills to ensure that the prepared procurement plans are carried out effectively. Basheka (2010) identified these skills as procurement planning skills that public procurement practitioners should have in order to ensure smooth procurement planning operations in their public procuring entities.

There is a body of literature that shows that procurement skills are required to ensure that procurement practitioners perform well in their day-to-day organizational operations (Bals et al., 2019; Mwaiseje & Changalima, 2020). Empirically, studies have centered on exploring the necessary procurement skills for procurement practitioners that are considered necessary for effective procurement practices (Basheka, 2010; Komakech, 2016; Tassabehji & Moorhouse, 2008). Also, other literature focuses on the need for skills and competencies in effective procurement planning activities (Apiyo & Mburu, 2014; Kiage, 2013). Therefore, given the importance of skills in procurement planning, this study proposes the following hypothesis:

H₁: procurement skills have an influence on procurement planning in public organizations

2.2. Procurement skills and procurement performance

Based on the earlier discussion in this paper, it is obvious that procurement skills are necessary for procurement activities. Lack of procurement skills results in procurement malpractices (Mrope, 2017, 2018), unethical conduct (Israel et al., 2019), and studies show that challenges affecting procurement practices in the public sector have been directly associated with the inadequacy of

procurement skills among practitioners (Mazibuko & Fourie, 2017). The necessary skills for procurement practitioners include but are not limited to individual technical skills such as cost analysis, product knowledge and computer literacy (Tassabehji & Moorhouse, 2008), communication skills (Changalima & Ismail, 2019), marketing skills, customer care management skills, and risk management skills (Basheka, 2010). Studies in this context have focused on skills to measure staff competencies (Hamza et al., 2016; Kiage, 2013). A competent workforce in procuring organizations is important to enhance performance in terms of improving procurement operations (Odongo & Kazungu, 2022). As a result, it is important to hypothesize the impact of procurement skills on procurement performance, and hence, this study proposes the following:

H₂: procurement skills influence the procurement performance of public organizations

2.3. Procurement planning and procurement performance

Procurement planning is an important function in the procurement process, and it has been an important angle for research in developing countries, particularly in Africa (Changalima et al., 2021; Gambo et al., 2021; Kariuki & Wabala, 2021; Muhwezi et al., 2020). Some studies focus on the importance of procurement planning in public organizations (Basheka, 2008, 2009), factors influencing procurement planning (Apiyo & Mburu, 2014) and challenges of procurement planning (Bryson, 2018; Katimo, 2013). However, studies in procurement planning and performance have produced interesting results. For instance, Kariuki and Wabala (2021), and Muhwezi et al. (2020) found that procurement planning is positively related to procurement performance.

On the other hand, empirical studies have shown that procurement planning is not significantly related to procurement performance (Hamza et al., 2016). Surprisingly, a study conducted by Mahuwi and Panga (2020) shows that procurement planning is negatively associated with quality as a dimension of performance. The probable explanation is that organizations are more likely to reduce costs than improve quality through effective procurement planning. The essence is that organizations that effectively plan their procurement endeavors are more likely to perform well in procurement functions. On this basis; we propose the following hypothesis for the study:

H₃: Procurement planning in public organizations influences procurement performance of public organizations

2.4. The mediating role of procurement planning on procurement skills and procurement performance

The study's premise is that procurement skills, as an independent variable, can indirectly influence procurement performance (as a dependent variable), via procurement planning as a mediating variable. This may be the case because procurement skills in procurement activities are regarded as important, and thus procurement planning as a critical activity in the procurement process may be enhanced (Basheka, 2009; Changalima et al., 2021). Empirical studies in most developing countries, particularly in Africa, centered on procurement planning as an important factor for enhancing the performance of procurement functions (Kariuki & Wabala, 2021; Salim & Kitheka, 2019). Therefore, unlike previous studies, this study analyzes the contribution of procurement skills to procurement planning and how enhanced procurement planning may determine procurement performance. Based on this focus, we propose the following hypothesis:

H₄: procurement planning has a mediating effect on the relationship between procurement skills and the procurement performance of public organizations.

3. Methodology

This is a cross-sectional survey study in which data was collected only once from surveyed procuring entities. It is supported by a quantitative approach, as all objectives of the study focus on examining causal and effect relationships. Furthermore, the design is feasible in that it allows for the collection of a large amount of data in a short period of time. Therefore, data were collected from procurement practitioners assigned to several public organizations in Dodoma City, Tanzania. Dodoma was chosen due to being the country's capital city. In addition, the number of public procuring organizations has increased since the official shift of government offices' headquarters to the region (Changalima et al., 2021).

A simple random sampling procedure was applied, as each procurement practitioner had an equal chance of being selected. The lottery method was applied, under which each respondent on the list was assigned a unique number and was picked randomly after following the procedures for conducting a simple random sampling. This technique eliminates biases as each respondent has an equal chance of being selected (Bryman & Bell, 2011).

Data was collected through a prepared, structured survey questionnaire. The structured survey questionnaire was used as it is considered a dominant data collection tool in cross-sectional studies. It made it possible for researchers to collect large amounts of data in a short period of time. During the time of data collection, a total of 178 questionnaires were physically distributed to procurement practitioners of various procuring organizations in Dodoma city, Tanzania. These practitioners are the ones who are involved in the procurement activities of their respective public organizations and, hence, were adequate in giving information related to the study. However, the study only managed to collect 149 out of the 178 questionnaires primarily issued during the survey. This equates to an 83.7 percent response rate, which was considered enough for a study and enhanced the generalizability of the findings.

The measurement of items used in the constructs of the study was guided by previous studies that appeared to fit in the context of this study. Procurement skills are defined as abilities possessed by procurement practitioners that facilitate the conduct of procurement activities. Procurement skills' measurements were adapted from Basheka (2010) and Changalima and Ismail (2019). Also, procurement planning was defined as the process of forecasting the right quantity of products from suitable suppliers in a timely and cost-effective manner. The items for measuring procurement planning were adapted from studies by Changalima et al. (2021) and Gatobu (2020). Procurement performance was defined as the degree to which the procurement function within an organization achieves its aims and targets at the lowest possible cost. These objectives are related to quality, time, and cost. The items for procurement performance were obtained from studies by Changalima and Ismail (2019) and Mahuwi and Panga (2020). According to the literature, a pilot study was carried out prior to a full-scale study to ensure the accuracy of items used in measuring constructs and clarity (Hair et al., 2020).

Cronbach's coefficient alpha was used in this study to assess internal consistency reliability for each construct in order to ensure reliability. The technique is useful in assessing how closely items are related as a group. All values of Cronbach's alpha coefficients as presented in Table 1 are above 0.7, which is considered to be an acceptable range (Tavakol & Dennick, 2011). Furthermore, the composite reliability (CR) was achieved, as the CR values shown in Table 1 are considered acceptable because they are all above the recommended range of 0.7 and above (Ab Hamid et al., 2017).

Furthermore, because the study used structural equation modeling (SEM) in data analysis, both convergent and discriminant validity were evaluated. Table 1 shows that the value of average variance extracted (AVE) for procurement skills is 0.548, 0.599 for procurement planning, and 0.651 for procurement performance. All of these values are greater than 0.5, implying that convergent validity has been achieved. To achieve convergent validity, the value of AVE must be

Table 1. Measurements, factor loadings, CR and AVE

Variables/Items	λ	α	CR	AVE
<i>Procurement skills (PSK)</i>		0.824	0.828	0.548
• Ability to develop and implement procurement skills (psk1)	0.747			
• Verbal communication skills with internal and external customers (psk2)	0.781			
• Ability to manage risks involved in procurement undertakings (psk3)	0.799			
• Ability to negotiate procurement contracts effectively (psk4)	0.622			
<i>Procurement planning (PPL)</i>		0.869	0.856	0.599
• Preparation and implementation of procurement plans (ppl1)	0.682			
• Involvement of key personnel in procurement planning process (ppl2)	0.734			
• Compliance with prepared procurement plans in accordance with predetermined law and regulations (ppl3)	0.818			
• Budget adequacy for prepared procurement plans (ppl4)	0.851			
<i>Procurement performance (PERF)</i>		0.834	0.847	0.651
• Acceptable quality (perf1)	0.659			
• Timely delivery (perf2)	0.890			
• Minimum costs (perf3)	0.853			

greater than 0.5 (Hair et al., 2010). Furthermore, discriminant validity (that is, each latent variable's square root of AVE is greater than the correlation coefficients between that latent variable and other latent variables in the measurement model) was assessed by using the Fornell-Larcker criterion, under which the values of the square root of AVE as presented in Table 2 are greater than the values of inter-correlation between constructs (Fornell & Larcker, 1981).

Moreover, during the data analysis, this study did not exclude any of the received questionnaires, as there were no obvious errors or non-responsiveness that may have resulted in missing data. The IBM SPSS v.23 was used during data entry and aided AMOS v.21 to test the hypothesized relationships for both direct and indirect effects as presented in Figure 1. SEM was employed as it is considered a more robust technique for analyzing the relationships between observed and latent variables (Hair et al., 2010).

4. Findings

4.1. Model measurements

The study presents the values of confirmatory factor analysis (CFA), which was the first step of analysis that was conducted before the structural model. The results of CFA are useful in providing values for assessing the validity and reliability of measurements, as presented in Table 1 and Table 2. The factor loadings for the CFA as presented in Figure 2 show that all items have factor loadings of 0.6 and above, which signifies the strong presentation of latent variables for each item (Hair et al., 2010). Also, the model fit indices for the CFA, which presents the measurement model, are chi-square model value (χ^2) = 55.218, degree of freedom (df) = 40, χ^2/df = 1.380 at p = 0.055, Comparative Fit Index (CFI) = 0.981, Normed Fit Index (NFI) = 0.936, Relative Fit Index

Table 2. Discriminant validity

	CR	AVE	MSV	MaxR(H)	PSK	PPL	PERF
PSK	0.828	0.548	0.360	0.839	0.740		
PPL	0.856	0.599	0.449	0.870	0.600	0.774	
PERF	0.847	0.651	0.449	0.879	0.538	0.670	0.807

(RFI) = 0.912, Tucker Lewis Index (TLI) = 0.974, Standardized Root Mean Square Residual (SRMR) = 0.053, Root Mean Square Error of Approximation (RMSEA) = 0.051, and PClose = 0.459. All of these values are considered to be within an acceptable range, and hence the model fit indices show that the data fit the model measurements well (Hair et al., 2010; Hooper et al., 2008).

4.2. Structural model and hypothesis testing

SEM in AMOS version 21 was used to analyze the mediation effect, with procurement skills as an independent variable, procurement performance as a dependent variable, and procurement planning as a mediating variable. Therefore, at the first place the impact of procurement skills on procurement performance without procurement planning (the mediating variable) as presented in Figure 3. The results revealed in Figure 3 support H₁ and show that procurement skills are significant and positively related to procurement performance, which is also, clearly presented in

Figure 1. Conceptual model.

NB: denotes mediation effect

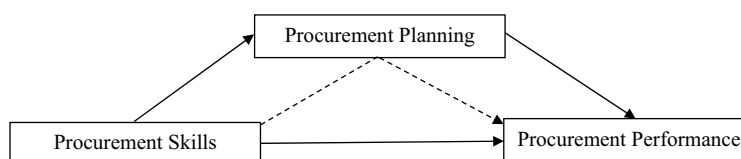
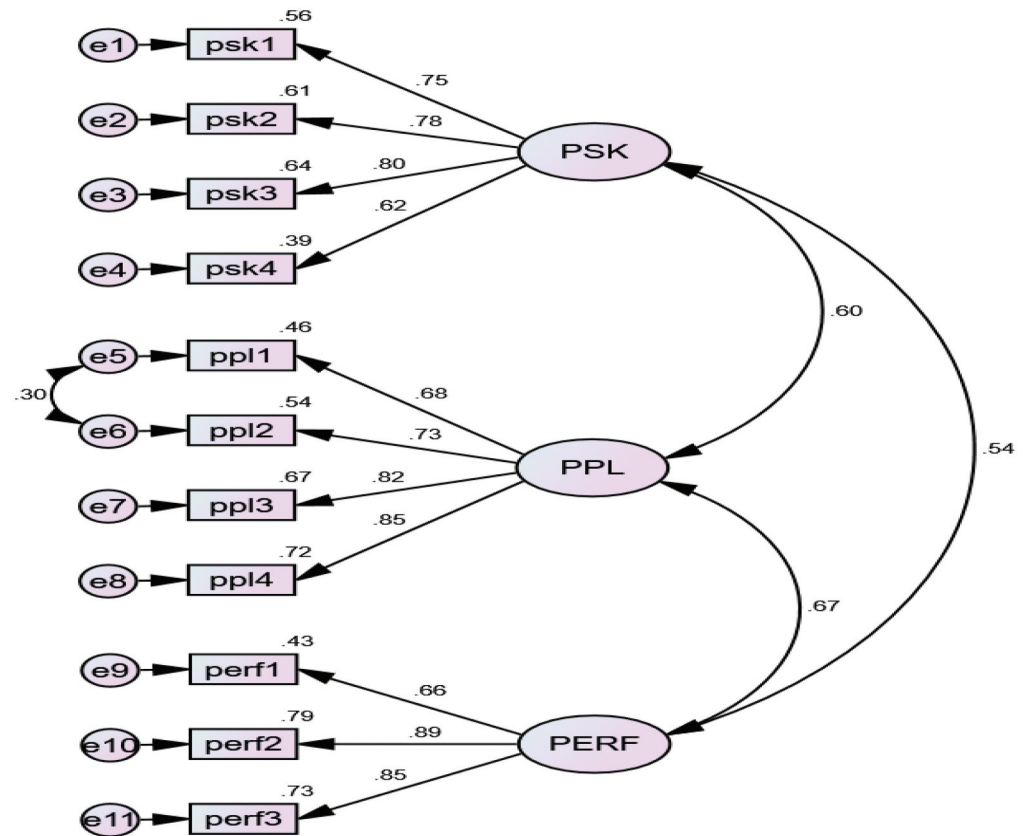


Table 3 with $p < 0.001$ and $\beta = 0.531$. Therefore, an increase in procurement performance by 53.1% is related to a unit improvement in procurement skills.

In the second place, the impact of procurement skills on procurement performance with a mediating variable (procurement planning) was conducted to present the direct and indirect effects as presented in Figure 4. Therefore, the analysis in this aspect included the mediating variable (procurement planning) in the relationship between procurement skills and procurement performance. The results in Table 4 show that procurement skills as an independent variable is significant and positive related to procurement planning ($\beta = 0.600$ and $p < 0.001$) which supports H₁. Furthermore, the independent variable (procurement skills) is positive and significant related to procurement performance ($\beta = 0.213$ and $p = 0.045$) and procurement planning as a mediating variable is significant related to procurement performance ($\beta = 0.542$ and $p < 0.001$) which supports H₃.

Lastly, to test H₄, the study followed the procedures for testing the mediation effect as recommended by Baron and Kenny (1986). According to the proposed method, there are two path regression models for the dependent variable, which are presented in this study as structural model 1 (see, Figure 3) and structural model 2 (see, Figure 4). The first model presents the regression between the independent variable (procurement skills) and the dependent variable (procurement performance). The second model presents the regression model for the relationship between the independent variable (procurement skills), mediating variable (procurement planning) on the dependent variable (procurement performance).

Figure 2. The CFA model.



Similarly, the three regressions present significant relationships between (i) the independent variable and mediating variable, (ii) the independent variable and dependent variable, and (iii) the mediating variable and dependent variable. Procurement skills indirectly affect procurement performance as presented in Table 4, which supports the mediation effect of procurement planning on the relationship between procurement skills and procurement performance. Therefore, the indirect effect is presented with the fact that procurement skills influence procurement performance through procurement planning (a mediator), and this confirms the mediation effect as the independent variable (procurement skills) indirectly influences the dependent variable (procurement performance) through a mediating variable (procurement planning). The indirect effect of this relationship has a beta coefficient value of 0.282 and a p-value of 0.003, as presented in Table 4.

5. Discussion of findings

The findings support the notion that procurement skills are important predictors of procurement planning, and that, therefore, procurement skills are required for effective procurement planning. When public procurement practitioners have the necessary procurement skills, they can ensure

Figure 3. The structural model 1.

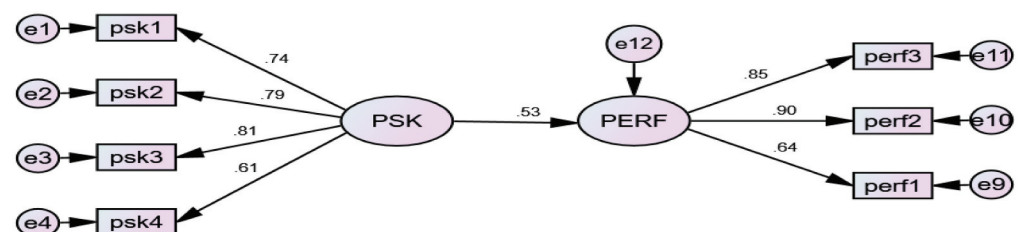
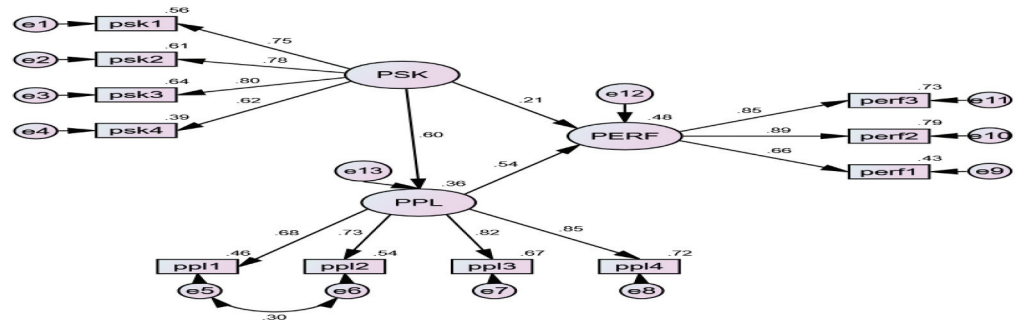


Table 3. The results of the structural model 1

	Standardized Estimate	Unstandardized Estimate	S.E.	C.R.	P
PSK→ PERF	0.531	0.454	0.093	4.869	***

Model fit indices: $\chi^2 = 13.139$, $df = 13$, $p = 0.437$ and $\chi^2 / df = 1.011$, CFI = 0.999, PCLOSE = 0.738, RMSEA = 0.009, SRMR = 0.043

Figure 4. The structural model 2.



effective procurement planning in terms of proper preparation and implementation of procurement plans, involvement of key personnel for providing inputs during the planning process, compliance with prepared procurement plans, and budget adequacy in planning. When individual items are examined more closely, the procurement skills item that reflects “the ability to manage risks involved in procurement undertakings” is the main contributing factor for procurement skills in procurement planning and contributes significantly to explaining procurement planning.

The finding implies that the ability to manage risks in procurement activities has a significant effect on procurement planning. Schedule risks (risks associated with delays), and procurement cost increases are the most common risks associated with procurement planning (may be linked to market dynamics and changes in product prices). As a result, the findings emphasize that improved risk-management abilities increase the desire for effective procurement plans. Although most people consider procurement planning to be an important skill (Basheka, 2010), the findings of this study indicate that skills are important determinants of procurement planning as an imperative activity. The findings are consistent with those of Apiyo and Mburu (2014). Their research demonstrates the significance of the skills required in procurement planning.

Furthermore, the findings indicate that procurement skills are necessary qualities for procurement practitioners to possess in order to ensure procurement performance in their respective organizations. According to the main findings, procurement skills and procurement performance are positively related, so improving procurement skills improves procurement performance. Similarly, the results show that among procurement skills, the ability to manage risks in procurement activities is the most important factor in explaining procurement performance. As a result, procurement risk management may be an important factor to consider in order to improve procurement performance. Because most procurement functions are open to risks that can affect the procurement outcomes, the ability to manage those risks may be a justification for the desired procurement performance.

The plausible explanation for this is that procurement practitioners with risk management skills can ensure that risks that affect procurement performance, such as poor product quality, delays, and increased procurement costs, are mitigated. As a result of effectively managing risks, procurement

Table 4. Results of structural equation model 2

Variables	Standardized Estimate	Unstandardized Estimate	S.E.	C.R.	P
PSK—> PPL	0.600	0.488	0.089	5.473	***
PSK—> PERF	0.213	0.185	0.092	2.007	0.045
PPL—> PERF	0.542	0.578	0.133	4.344	***
Indirect effects					
PSK—> PPL —> PERF		0.282			0.003

Model fit indices: $X^2 = 55.218$, $df = 40$, $X^2/df = 1.380$, $p = 0.055$, $CFI = 0.981$, $SRMR = 0.053$, $RMSEA = 0.051$, $PClose = 0.459$

performance in terms of achieving desirable quality in procurement deliverables (the procured goods, services, and works), ensuring these deliverables are met in a timely manner with minimal costs can be achieved. Furthermore, a recent study by Nyamah et al. (2022) discovered that procurement risks have a negative impact on procurement performance within organizations. Studies conducted by Basheka (2010), Changalima and Ismail (2019), and Tassabehji and Moorhouse (2008), on the other hand, support the main findings because these studies concluded that procurement skills such as communication skills are important for procurement practitioners to perform adequately in procurement activities, which may result in improved procurement performance.

This study also provides empirical evidence of the existing relationship between procurement planning and procurement performance. The findings show that there is a significant and positive relationship between procurement planning and procurement performance. As a result, procurement planning is an important predicting variable for explaining procurement performance in government agencies. According to the main findings, increasing procurement planning improves procurement performance. When individual scales of procurement planning are examined closely, the main contributing factor for procurement planning on procurement performance is budget adequacy for prepared procurement plans. Thus, budget plays an important role in ensuring that procurement performance is improved, as most procurement activities rely on the availability of an adequate budget to finance expenditures.

With the existence of a positive and significant relationship between procurement planning and procurement performance, the plausible cause for this relationship is the effective role of adequate procurement plans in justifying the public procurement process. Procurement planning provides a roadmap for managing expenditures in procurement activities, as expenditures not included in the prepared procurement plans may justify higher costs than those budgeted. Furthermore, procurement malpractices may be associated with poor procurement plans and non-adherence to procurement plans, which may have an impact on procurement performance in terms of cost escalation. According to Changalima et al. (2021), the purpose of procurement planning is to identify needs and requirements, which are then incorporated into budgets to ensure that expenditures are spent effectively. As a result, procurements conducted outside of procurement plans may result in poor procurement outcomes. These findings are supported by Kariuki and Wabala (2021), Gambo et al. (2021), and Salim and Kithika (2019), all of which show that procurement planning influences procurement performance across multiple dimensions.

Finally, the study discovered an indirect relationship between procurement skills and procurement performance. The study is primarily concerned with determining how procurement skills can improve performance by enhancing procurement planning. As a result, the role of procurement planning in mediating the relationship between procurement skills and procurement performance was established. This means that when analyzing procurement skills and procurement performance in public

organizations, procurement planning cannot be separated. In practice, procurement practitioners who are responsible for procurement planning in their respective organizations should ensure that procurement skills are improved in order to have effective and efficient plans for promoting procurement performance. As a result, considering the role of procurement skills in explaining procurement performance is more relevant with inclusion of procurement planning aspects such as proper need identification and analysis, aggregation of requirements, budget integration, and user involvement.

These findings are supported by the fact that procurement skills are critical for ensuring proper and effective procurement planning (Apiyo & Mburu, 2014; Basheka, 2008), and procurement planning is essential for procurement performance (Kariuki & Wabala, 2021; Willy & Njeru, 2014). Procurement skills may thus improve procurement performance through procurement planning. The current study provides evidence that the mediating variable (procurement planning) is the reference point for almost all procurement endeavors conducted in the public sector (Basheka, 2009; Changalima et al., 2022a), and that procurement skills improve this planning function in order to improve procurement performance.

6. Conclusion and recommendations

This study focused on the influence of procurement skills on procurement performance and further investigated the mediating effect of procurement planning on the relationship between procurement skills and procurement performance. Therefore, the study provides the contribution of procurement planning to the relationship between procurement skills and procurement performance. The focus of the study is on enhancing procurement planning by using procurement skills to improve procurement performance. Based on the main results, it can be concluded that procurement skills are important predicting factors for procurement performance, as improvement in procurement performance can be achieved with an increase in procurement skills, especially those abilities resulting in effective procurement risk management. Furthermore, procurement skills are required for ensuring effective procurement planning in public organizations, as adequate procurement skills significantly improve procurement planning. Procurement planning can be a useful tool for improving procurement performance, and the study shows that there is a link between procurement skills and performance that is mediated by procurement planning.

The study assumes aspects of human capital theory, which proposes the necessary skills that may be acquired through training and experience for individuals to perform activities in organizations. Thus, skills, as a necessary feature that can be obtained through training and experience, can be used as mechanisms for enhancing procurement activities, including planning to explain the performance of procurement functions in public organizations. In this regard, procurement practitioners who are well trained and have sufficient experience in procurement affairs and adequacy skills are required to ensure that procurement plans are adequately prepared, which is critical for improving procurement performance. Furthermore, procurement planning has been considered an important tool for ensuring procurement performance in public organizations, particularly in most African countries. Therefore, organizations should emphasize the importance of making concerted efforts to ensure that skilled and competent procurement practitioners meet procurement targets and perform well in terms of ensuring timely delivery of goods and services at acceptable quality and reasonable costs.

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