

Value for money through procurement planning

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ABSTRACT

There is no evidence proving a connection between procurement planning and procurement regulatory compliance, and hence value for money (VFM), despite empirical studies establishing the significance of procurement planning in obtaining VFM in procurement. In order to investigate how procurement practitioners in Tanzania might maximize VFM through procurement planning, this study looked at how procurement regulatory compliance can be used. It was decided to use a cross-sectional research strategy. With the help of a questionnaire, data was accumulated. The data was analyzed using structural equation modelling (SEM) and Hayes' PROCESS macro test for mediation analysis. Planning for purchases has a solid and advantageous link with adhering to procurement regulations ($\beta = 0.491$, $p = 0.001$). Compliance with procurement regulations is significantly and favourably correlated with VFM in procurement ($\beta = 0.586$, $p = 0.001$). Additionally, the results demonstrate that procurement planning significantly improves the likelihood of success ($\beta = 0.257$, $p = 0.005$). Additionally, the bootstrapping confidence intervals showed that procurement regulatory compliance primarily mediated the association between procurement planning and VFM in procurement. The geographical context in which the study was done limits it even though it successfully achieved its ultimate goal. Because each country has unique public procurement rules and regulations controlling procurement operations in the public sector, generalizing the study's findings should be done with caution. The report adds to the ongoing discussion on achieving VFM in procurement activities. By demonstrating the mediation effect of procurement regulation compliance on the pursuit of obtaining VFM in public procurement, the study contributes to the studies focused on public procurement.

Keywords: Inventory automation, Supply chain management, Public procurement

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1. Introduction

Due to the significant importance of public procurement at various levels - organizational, societal, and national - the concept of achieving value for money (VFM) in public procurement has been a subject of extensive research over a considerable period (Flynn, 2018). For example, governmental bodies engage in the acquisition of goods, projects, and services to sustain their ongoing operations. Moreover, effective public procurement procedures within government institutions enable the public to access government services (Anane et al., 2019). This includes scenarios where governments procure medical supplies and medications to enhance healthcare delivery (Adusei, 2018; Israel et al., 2019; Miller & Lehoux, 2020), as well as constructing educational infrastructure such as classrooms, thereby expanding public access to education (Gidigah et al., 2022).

Public procurement also plays a crucial role in advancing transportation infrastructure development through collaborative efforts between the public and private sectors (Välilä, 2020). This infrastructure improvement, in turn, fosters trade, commerce, and economic activities on both local and regional scales. To optimize the achievement of value for money, the public sector concentrates on refining its procurement practices (Fourie & Malan, 2020). Like many burgeoning economies, Tanzania's government employs public procurement to provide vital services to its law-abiding citizens. This includes ensuring that well-regarded hospitals and schools grant individuals affordable and accessible healthcare and educational services. The Standard Gauge Railway project, a pivotal initiative in Tanzania's rail infrastructure ventures since 1961, exemplifies how public procurement is intertwined with the construction of transportation networks like roads and railways to stimulate intercommunity trade and interaction (Rweyendela & Mwegoha, 2022).

Drawing insights from observations in other nations (Liu et al., 2020; Namagembe et al., 2021), engaging with public procurement opportunities permits small and medium-sized enterprises to conduct business with government entities, and this holds true for Tanzania as well (Stephen, 2021). Consequently, the involvement of these smaller businesses amplifies the importance of public procurement activities within the country. Despite the pivotal role of procurement within the public sector, the achievement of value for money in procurement processes could be enhanced. The annual Performance Evaluation Report for the Financial Years 2020 and 2021 illustrates efforts by public organizations to bolster value for money. Delays and subpar execution in public procurement, they contend, impede the success of value for money in the procurement realm.

According to empirical studies, the attainment of value for money in national procurement correlates with effective management of procurement contracts and the competencies of procurement practitioners. Another sphere of research highlights a connection between procurement strategy and value-for-money outcomes in the procurement process (Chepkesis & Keitany, 2018). However, this earlier research primarily scrutinizes the direct relationship between the study's independent and dependent variables. In practical terms, procurement entities prepare for projects and adhere to procurement regulations set by governing frameworks (Hashmi et al., 2021a, b). Nevertheless, when investigating the interplay between procurement strategy and value for money, prior research should emphasize the significance of adhering to procurement regulations. As per the procurement compliance model, adherence to these regulations reduces instances of errors. Additionally, public procurers can ensure that procurement actions are carried out transparently, impartially, and with accountability by adhering to legal procurement requisites (Chikwere et al., 2019).

Consequently, the present study aims to explore a central research query: "Does adherence to procurement regulations mediate the relationship between procurement planning and the pursuit of value for money in public procurement?" Our research hones in on the ways in which procurement planning bolsters compliance with procurement regulations, thereby facilitating the realization of

value for money in public procurement. This inquiry contributes valuable data and insights to the field of public procurement, shedding light on how strategic procurement planning can enhance adherence to regulations and, consequently, yield value for money. Policymakers can leverage these findings to underscore the importance of organizational compliance with procurement regulations, mitigating the misuse of public funds.

2. Literature Review

According to the theory, the use of deterrent strategies can potentially clarify the reasons behind compliance, and there is also consideration for psychological and social aspects that could contribute to this understanding (Sutinen & Kuperan, 1999; Hashmi, 2022). The theory strongly underscores the importance of selecting appropriate laws and regulations to manage human conduct effectively. This research aligns with this concept as it elucidates why adhering to regulations in public procurement holds immense significance. For example, establishing transparency, accountability, and the proper utilization of public funds hinges on regulatory compliance (Hashmi, 2023). The central objective of public procurement, or more precisely, its core focus, is to facilitate the prudent and cost-effective utilization of public funds. It also places emphasis on achieving value for money (VFM) and maintaining the caliber of services and products, which might be compromised in the absence of compliance.

This study employs this theory as it elucidates how individual traits play a role in shaping compliance decisions. Just as in public procurement, adherence to laws and regulations is influenced by an individual's moral responsibility. In the context of procurement activities within Tanzania's public sector, the Public Procurement Act (PPA) and its associated regulations notably stress the importance of adhering to procurement statutes (Hashmi et al., 2020a, b). When suppliers and contractors are engaged through responses to public procurement opportunities, the legislation mandates the evaluation of compliance through meticulous procurement planning and strict adherence to procurement protocols.

Moreover, ensuring the continuity of compliance throughout the procurement processes is of paramount importance (Chikwere et al., 2019; Rashid et al., 2020). In this scenario, public procurement officials must meticulously adhere to all pertinent laws and regulations governing procurement procedures. The concept of regulatory compliance is assumed within the context of this study to guarantee that procurement practitioners within organizations follow the correct policies and procedures while executing their procurement duties.

In both affluent and emerging countries, proper procurement planning is a necessity for public entities. There exists a substantial body of literature discussing the utilization of value for money (VFM) and procurement operations (Aimable et al., 2019). Furthermore, when considering their relationship with VFM in procurement, these studies delve into various dimensions of procurement planning. For instance, Aimable et al. (2019) directed their attention toward elements such as the packaging, methodology, and scheduling within procurement planning. This encompassed activity like formulating annual procurement plans in alignment with the structure and provisions outlined by the PPRA, and implementing these plans as well.

The spectrum of activities involved in obtaining goods and services necessitates a comprehensive approach, and this is encapsulated by the procurement planning process. Consequently, a diverse array of stakeholders must engage in this planning process. Users continue to be pivotal participants, given their role in providing the essential inputs to meet the organization's demands and needs at any given juncture. Although the task of planning for procurement activities poses challenges for public institutions in Tanzania, its significance for their overarching enhancement cannot be understated.

Empirical research that delves into procurement planning is imperative to illuminate the pragmatic facets of procurement undertakings. Effective planning for acquisitions enables

organizations to exercise control over operational expenses and curtail costs (Baloch & Rashid, 2022). Similarly, when these well-formulated plans are seamlessly integrated with the expenditure budget, public entities can effectively manage their outlays through sound procurement strategies. Given the pivotal role of procurement planning in the realm of public procurement, our study proposes the following recommendations:

H1: PP significantly relates to VFM.

As outlined in Tanzania's Public Procurement Act (PPA), the process of procurement planning remains an integral and fundamental responsibility for public procurement entities (URT, 2011). The PPA designates the Public Procurement Regulatory Authority (PPRA) as the official body responsible for overseeing the nation's public procurement affairs and mandates Tanzanian public procurement entities to formulate and promptly submit their procurement plans. However, despite this stipulation, certain public organizations are found to be deficient in submitting their annual procurement plans, a discrepancy evident in recent audit reports (Annual Performance Evaluation Report for the Financial Year, 2021). Consequently, adherence to legal statutes and regulations becomes imperative. Typically, businesses that neglect to account for their needs and requisites are categorized as public procurement entities that are not in alignment with the provisions of the PPA and its accompanying regulations. Hence, our study posits the following hypothesis:

H2: PP significantly relates to PRC.

Procurement regulatory compliance refers to an organization's commitment to uphold essential procurement principles, as well as abide by the relevant laws and regulations during their procurement operations. This concept finds its embodiment in PPA No. 7 of 2011 and its subsequent amendments, along with the public procurement regulations of 2013 and subsequent modifications, which govern public procurement endeavors in Tanzania (Mwagike & Changelima, 2022). The modifications introduced to this regulatory framework primarily aim to enhance compliance while concurrently streamlining the procurement process's duration. An expanding body of research highlights the need for regulatory compliance in various facets of procurement (Chikwere et al., 2019; Mwelu et al., 2020). Factors encompassing the enhancement of service efficiency, road infrastructure, and procurement performance fall within the ambit of these considerations (Mwelu et al., 2018). Public procurement entities that diligently adhere to procurement laws and regulations are more apt to achieve successful procurement outcomes and curtail the misappropriation of public funds. In light of these premises, the present study formulates the following proposition:

H3: PRC significantly relates to VFM.

For public procurement entities in Tanzania, effective procurement planning is crucial to ensure alignment with the pertinent laws and regulations governing public procurement. However, the findings extracted from the Public Procurement Regulatory Authority (PPRA) indicate that certain public sector entities in the country need to enhance their adherence to this requisite (Annual Performance Evaluation Report for the Financial Year, 2019). Consequently, concerns arise about these entities' management of public funds and the allocation of budgets for their procurement operations. Value for money (VFM) within the context of procurement pertains to how efficiently, economically, and effectively procuring organizations carry out their procurement activities, as well as the overall outcomes of their procurement initiatives (Dimitri, 2013).

In light of the reported instances of financial loss associated with procurement activities within Tanzania, our present study investigates the intermediary role played by procurement regulatory compliance in the correlation between procurement planning and VFM within the public sector. The central premise is that meticulous planning to meet procurement needs and prerequisites will heighten regulatory compliance, consequently leading to the attainment of value for money in public procurement. Hence, the study posits the following assertion:

H4: PRC significantly mediates the relationship between PP and VFM.

3. Research Methodology

A single-point data collection cross-sectional survey was conducted to explore the relationship between the variables under investigation. The study employed a cross-sectional research approach to gain a comprehensive insight into the interplay between the study's factors. This method, compared to longitudinal designs, is swift and cost-effective. Cross-sectional studies are often favored due to their time and cost efficiency, making them a pragmatic choice for research (Setia, 2016; Rashid et al., 2022a, b). Consequently, this approach considerably streamlined the process of swiftly accumulating data.

A total of 146 procurement professionals, actively engaged in various public procuring agencies within Dodoma City, Tanzania, participated in the study by contributing data. The study included procurement practitioners who were involved in procurement operations within public organizations. The selection of Dodoma City was deliberate, driven by the fact that the city experienced an upsurge in public procurement entities following the relocation of the government headquarters of the United Republic of Tanzania (URT). As a result, Dodoma, the national capital, boasts a substantial number of public procuring organizations, ensuring the researchers could access pertinent and accurate information.

3.1 Data Collection Method and Tool

As the preferred method for collecting primary data from participants, a survey tool in the form of a questionnaire was employed to amass data. Questionnaire surveys have the advantage of yielding vast amounts of data swiftly compared to interview-based approaches. Furthermore, utilizing a questionnaire proves beneficial, particularly in situations where respondents have limited availability for interviews, as noted by Kasoga (2021). Consequently, the study effectively obtained substantial information by utilizing a structured questionnaire to comprehensively address the variables of the study (Rashid et al., 2016; Rashid et al., 2021).

3.2 Measurements of Study Variables, Reliability and Validity

Procurement planning was assessed using four modified items, as adapted from Gatobu (2020). For evaluating Value for Money (VFM) in the procurement process, four items were employed. Similarly, the mediator variable, procurement regulatory compliance, was gauged using four modified items. These items underwent slight adjustments to align with the context and objectives of the present investigation. Prior to full-scale data collection, pre-testing was conducted to ensure that the items effectively captured their intended meanings.

The instruments were refined based on feedback from three independent procurement professionals and academicians to cater to the study's propositions. Internal consistency reliability was evaluated using Cronbach's alpha, and all constructs exhibited values above 0.7, which is within the acceptable range (Tavakol & Dennick, 2011; Rasheed et al., 2023; Rashid et al., 2023).

Furthermore, convergence validity was established since all constructs possessed Average Variance Extracted (AVE) values exceeding 0.5 (Amani, 2022). Discriminant validity was also confirmed, as each construct's square root of AVE exceeded its correlations with other constructs. This observation indicates the attainment of discriminant validity, as the AVE value surpasses the squared intercorrelations (Fornell & Larcker, 1981; Rasheed & Rashid, 2023; Rashid & Rasheed, 2023).

3.3 Data Analysis Approach

The process commenced with Confirmatory Factor Analysis (CFA) to initially ascertain the

alignment of the measurement model with the gathered data. This preliminary step preceded the execution of path analysis using the structural model. CFA functions to isolate the latent construct from other variables while maximizing shared variance with the variables linked to the latent construct. On the other hand, SEM proves valuable for examining relationships between latent variables within the model (Amani, 2022; Fan et al., 2016; Rashid & Rasheed, 2022; Hashmi & Mohd, 2020). Subsequently, the study employed SEM to scrutinize the implications of the interconnections among the study variables. Additionally, a mediation analysis was conducted to ascertain the mediating influence of procurement regulatory compliance. This analysis explored both direct and indirect effects using a straightforward mediation model.

4. Discussion

There exists a notable correlation between procurement planning and achieving Value for Money (VFM) in the realm of public procurement. This study proposes that effective procurement planning contributes significantly to the attainment of optimal VFM in public procurement. This assertion finds reinforcement in the work of Aimable et al. (2019), who determined that successful procurement planning enhances the likelihood of businesses achieving VFM in their procurement endeavors. Consequently, the planning of procurement operations is pivotal for businesses. By organizing tasks in advance, the duration of procurement activities can be managed effectively. When scheduled tasks and expenditure budgets are harmonized, procurement costs can be minimized. Furthermore, Gambo and Musonda (2021) posit that procurement planning facilitates the identification and grouping of demands, leading to well-defined procurement schedules that drive VFM. Empirical research underscores the importance of structuring procurement processes for improved performance by public procurement organizations (Kariuki & Wabala, 2021; Muhwezi et al., 2020). However, this study specifically centers on procurement planning as a mechanism for realizing VFM, which may enable public procurement agencies to reallocate funds from reduced procurement expenses to other developmental initiatives.

Additionally, the study put forth the following hypothesis: "H3: There is a significant association between procurement regulatory compliance and Value for Money (VFM) in public procurement." The findings indicate that adhering to procurement regulations serves as a robust predictor of achieving VFM in public procurement ($R^2 = 0.586$, $p < 0.001$). This substantiates H3, underlining a compelling link between procurement regulatory compliance and VFM. This study's outcomes imply that public procurement entities can effectively realize VFM by maintaining alignment with procurement regulatory stipulations. This sentiment is supported by Eyaa and Oluka (2011), who advocate for emphasizing the achievement of VFM through adherence to procurement laws and regulations.

The study's final hypothesis, H4, asserts that procurement regulatory compliance significantly mediates the relationship between procurement planning and VFM in public procurement. To examine this mediation effect, the study utilized the PROCESS macro mediation test (Model 4) developed by Hayes. This technique employs bootstrapping confidence intervals for mediation analysis (Hayes, 2018). Thus, both direct and indirect effects of a straightforward mediation model were scrutinized (Hayes, 2018). The initial regression model demonstrates a positive and significant connection between the mediator variable, procurement regulatory compliance, and the independent variable, procurement planning.

The coefficient of 0.482 indicates the direct influence of procurement planning on procurement regulatory compliance within the path model. Moreover, positive and significant relationships with VFM in procurement are evident for procurement planning and regulatory compliance, with coefficients of 0.460 ($p < 0.001$) and 0.236 ($p < 0.001$), respectively. The bootstrap confidence intervals at 95%, ranging from 0.128 to 0.327, further affirm these relationships. These non-zero intervals between the ranges led to the rejection of the null hypothesis and the acceptance of H4. This indicates that procurement regulatory compliance acts as a mediator between the independent variable (procurement planning) and the dependent variable (VFM), bolstering the

presented case.

5. Implications

Our present study significantly contributes to the existing literature by investigating the influence of procurement regulation compliance on the relationship between the study's variables within the context of public procurement in Tanzania. This endeavor enhances the comprehension of the stance of Value for Money (VFM) within the realm of public procurement in Tanzania, thus yielding valuable insights. Furthermore, the study develops a theoretical model that aids in comprehending VFM in public procurement through the lens of procurement regulatory compliance. This addition to the existing body of literature (Dimitri, 2013; Hamzah et al., 2020) underscores the practical applicability of VFM within public sector procurement undertakings.

Moreover, the study sheds light on essential managerial considerations that public enterprises should take into account while devising procurement plans. A key realization emerges regarding the pivotal role of procurement planning in ensuring legal conformity in public procurement endeavors. Effective procurement planning serves as a robust means to achieve satisfactory compliance among procurement practitioners. To bolster procurement regulatory compliance, it becomes imperative to ensure that formulated procurement strategies meticulously adhere to all relevant legislations. Equally important is the competence of personnel engaged in procurement planning, as a sufficient level of proficiency is vital to uphold compliance with the regulatory framework governing procurement actions. Facilitating education and training initiatives pertaining to procurement regulations and compliance can effectively contribute to achieving this objective.

5.1 Conclusion

Within the realm of public procurement in Tanzania, our study focused on examining the mediating impact of adherence to procurement regulations on the relationship between planning and Value for Money (VFM). The investigation substantiates that the variables under scrutiny exert a noteworthy influence on procurement regulatory compliance. Notably, our study's findings underscore the considerable influence of procurement strategy on VFM. Furthermore, connections between VFM and procurement regulatory compliance, as well as between procurement planning and compliance, are evident. Consequently, the study concludes that procurement regulatory compliance acts as a mediator between procurement planning and VFM in public procurement, effectively achieving its ultimate goal. This indicates that Tanzanian public procurement practitioners have the potential to enhance VFM within the country through heightened procurement regulatory compliance.

For forthcoming researchers, we encourage the conduct of empirical studies focusing on the impact of procurement regulation compliance on procurement planning and the operational efficacy of the public sector's procurement function. A burgeoning body of research has illustrated a correlation between evaluating the performance of public sector procurement through the lens of VFM (Obura, 2020). Performance in this context pertains to methodologies employed to maximize VFM. Consequently, insights from this domain could further our understanding of how procurement regulatory compliance shapes procurement planning and performance within the public sector. Moreover, other empirical investigations could explore alternative mediators to procurement regulatory compliance, potentially providing a more comprehensive exploration of our independent and dependent variables.

References

- Adusei, C. (2018). Public procurement in the health services: application, compliance and challenges". *Humanities and Social Sciences Letters*, 6(2), 41-50. <https://doi.org/10.18488/journal.73.2018.62.41.50>
- Aimable, N., Osunsan, O. K., Florence, I., Comet, K. F., & Sarah, N. (2019). Procurement planning on value for money among selected districts in Southern Province, Rwanda. *Journal of Research in Business and Management*, 7(1), 34-40.

- Amani, D. (2022). I have to choose this university: understanding the perceived usefulness of word of mouth (WOM) in choosing universities among students of higher education. *Services Marketing Quarterly*, 43(1), 1-16. <https://doi.org/10.1080/15332969.2021.1982851>
- Annual Performance Evaluation Report for Financial Year 2018/19. (2018). In *Public Procurement Regulatory Authority (PPRA)* (2019).
- Annual Performance Evaluation Report for Financial Year 2019/2020. (2019). In *Public Procurement Regulatory Authority (PPRA)* (2020).
- Annual Performance Evaluation Report for Financial Year 2020/2021. (2020). In *Public Procurement Regulatory Authority (PPRA)* (2021).
- Baloch, N. & Rashid, A. (2022). Supply Chain Networks, Complexity, and Optimization in Developing Economies: A Systematic Literature Review and Meta-Analysis. *South Asian Journal of Operations and Logistics*, 1(1), 1-13. <https://doi.org/10.57044/SAJOL.2022.1.1.2202>
- Chepkesis, K. M., & Keitany, P. (2018). Effect of procurement planning on suppliers performance in public institutions: a case of MOI University. *European Journal of Logistics, Purchasing and Supply Chain Management*, 6(2), 1-9.
- Chikwere, G. U., Dzandu, S. S. K., & Dza, M. (2019). Compliance issues with public procurement regulations in Ghana. *International Journal of Business and Management*, 14(5), 1-8. <https://doi.org/10.5539/ijbm.v14n5p1>
- Dimitri, N. (2013). 'Best value for money' in procurement. *Journal of Public Procurement*, 13(2), 149-175. <https://doi.org/10.1108/JOPP-13-02-2013-B001>
- Eyaa, S., & Oluka, P. N. (2011). Explaining non-compliance in public procurement in Uganda. *International Journal of Business and Social Science*, 2(11), 35-44.
- Fan, Y., Chen, J., Shirkey, G., John, R., Wu, S. R., Park, H., & Shao, C. (2016). Applications of structural equation modelling (SEM) in ecological studies: an updated review. *Ecological Processes*, 5(1), 1-12. <https://doi.org/10.1186/s13717-016-0063-3>
- Flynn, A. (2018). Measuring procurement performance in Europe. *Journal of Public Procurement*, 18(1), 2-13. <https://doi.org/10.1108/JOPP-03-2018-001>
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18(1), 39-50. <https://doi.org/10.1177/002224378101800104>
- Fourie, D., & Malan, C. (2020). Public procurement in the South African economy: addressing the systemic issues". *Sustainability (Switzerland)*, 12(20), 1-23. <https://doi.org/10.3390/su12208692>
- Gambo, N., & Musonda, I. (2021). Procurement planning factors influencing the quality performance of primary healthcare building facilities: a mediation effect of the firm's business partnership. *Cogent Engineering*, 8(1), 1-16. <https://doi.org/10.1080/23311916.2021.1872823>
- Gatobu, F. H. (2020). Influence of procurement process on the performance of public entities (A case study of Nairobi county government). *International Journal of Academic Research in Business and Social Sciences*, 10(4), 40-61. <https://doi.org/10.6007/IJARBS/v10-i4/7106>
- Gidigah, B. K., Agyekum, K., & Baiden, B. K. (2022). Defining social value in the public procurement process for works. *Construction and Architectural Management*, 29, 2245-2267. <https://doi.org/10.1108/ECAM-10-2020-0848>
- Hashmi, A. (2022). Factors affecting the supply chain resilience and supply chain performance. *South Asian Journal of Operations and Logistics*, 1(2), 65-85. <https://doi.org/10.57044/SAJOL.2022.1.2.2212>
- Hashmi, A. R., & Mohd, A. T. (2020). The effect of disruptive factors on inventory control as a mediator and organizational performance in the health department of Punjab, Pakistan. *International Journal of Sustainable Development & World Policy*, 9(2), 122-134. <https://doi.org/10.18488/journal.26.2020.92.122.134>
- Hashmi, A. R., Amirah, N. A., & Yusof, Y. (2020a). The mediating effect of integrated systems on the relationship between supply chain management practices and public healthcare performance: Structural Equation Modeling. *International Journal of Management and Sustainability*, 9(3), 148-160. <https://doi.org/10.18488/journal.11.2020.93.148.160>

- Hashmi, A. R., Amirah, N. A., & Yusof, Y. (2021b). Organizational performance with disruptive factors and inventory control as a mediator in public healthcare of Punjab, Pakistan. *Management Science Letters*, 11(1), 77-86. <https://doi.org/10.5267/j.msl.2020.8.028>
- Hashmi, A. R., Amirah, N. A., Yusof, Y., & Zaliha, T. N. (2020b). Exploring the dimensions using exploratory factor analysis of disruptive factors and inventory control. *The Economics and Finance Letters*, 7(2), 247-254. <https://doi.org/10.18488/journal.29.2020.72.247.254>
- Hashmi, A. R., Amirah, N. A., Yusof, Y., & Zaliha, T. N. (2021a). Mediation of inventory control practices in proficiency and organizational performance: State-funded hospital perspective. *Uncertain Supply Chain Management*, 9(1), 89-98. <https://doi.org/10.5267/j.uscm.2020.11.006>
- Hashmi, R. (2023). Business Performance Through Government Policies, Green Purchasing, and Reverse Logistics: Business Performance and Green Supply Chain Practices. *South Asian Journal of Operations and Logistics*, 2(1), 1–10. <https://doi.org/10.57044/SAJOL.2023.2.1.2301>
- Hayes, A. F. (2018). *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach*. The Guilford Press.
- Israel, B., Kazungu, I., & Mchopa, A. (2019). Centralized medical supplies procurement and health service delivery in Arusha and Kilimanjaro regions, Tanzania. *East African Journal of Social and Applied Sciences*, 1(1), 70-79.
- Kariuki, M. C., & Wabala, S. (2021). Influence of procurement planning on the procurement performance of selected county governments in Kenya. *International Research Journal of Business and Strategic Management*, 2(2), 227-248.
- Kasoga, P. S. (2021). Heuristic biases and investment decisions: multiple mediation mechanisms of risk tolerance and financial literacy - a survey at the Tanzania stock market. *Journal of Money and Business*, 1(2), 102-116. <https://doi.org/10.1108/JMB-10-2021-0037>
- Liu, J., Liu, Y., Ma, Y., & Xie, G. (2020). Promoting SMEs friendly public procurement (SFPP) practice in developing country: the regulation and policy motivator and beyond. *The Social Science Journal*, 1-20. <https://doi.org/10.1080/03623319.2020.1799180>
- Miller, F. A., & Lehoux, P. (2020). The innovation impacts of public procurement offices: the case of healthcare procurement. *Research Policy*, 49(7), 1-13. <https://doi.org/10.1016/j.respol.2020.104075>
- Muhwezi, L., Musiime, F. T., & Onyutha, C. (2020). Assessment of the effects of procurement planning processes on the performance of construction contracts in local governments in Uganda. *Journal of Civil, Construction and Environmental Engineering*, 5(6), 151-160. <https://doi.org/10.11648/j.jccee.20200506.12>
- Mwagike, L. R., & Chagalima, I. A. (2022). Procurement professionals' perceptions of skills and attributes of procurement negotiators: a cross-sectional survey in Tanzania. *International Journal of Public Sector Management*, 35(1), 94-109. <https://doi.org/10.1108/IJPSM-12-2020-0331>
- Mwelu, N., Davis, P. R., Ke, Y., & Watundu, S. (2020). Compliance mediating role within road construction regulatory framework. *Journal of Public Procurement*, 20(3), 209-233. <https://doi.org/10.1108/JOPP-12-2018-0052>
- Mwelu, N., Davis, P., Ke, Y., & Watundu, S. (2018). Compliance within a regulatory framework in implementing public road construction projects. *Construction Economics and Building*, 18(4), 1-23. <https://doi.org/10.5130/AJCEB.v18i4.6362>
- Namagembe, S., Mpeera, J. N., & Kalid, A. (2021). An examination of SME involvement in public procurement under bid lot sizing. *Journal of Public Procurement*, 21(4), 370-398. <https://doi.org/10.1108/JOPP-04-2020-0031>
- Obura, C. O. (2020). Procurement planning: the principle of a sound balance between procurement control and achieving value for money. *International Academic Journal of Procurement and Supply Chain Management*, 3(2), 19-27.
- Rasheed, R., & Rashid, R. (2023). Role of service quality factors in word of mouth through student satisfaction. *Kybernetes*. In press. <http://dx.doi.org/10.1108/k-01-2023-0119>
- Rasheed, R., Rashid, A., Amirah, N. A., & Afthanorhan, A. (2023). Quantifying the moderating effect of servant leadership between occupational stress and employee in-role and extra-role performance. *Calitatea*,

24(195), 60-68. <https://doi.org/10.47750/QAS/24.195.08>

- Rashid, A. & Rasheed, R. (2022). A Paradigm for Measuring Sustainable Performance Through Big Data Analytics–Artificial Intelligence in Manufacturing Firms. Available at SSRN 4087758. <https://doi.org/10.2139/ssrn.4087758>
- Rashid, A. & Rasheed, R. (2023). Mediation of inventory management in the relationship between knowledge and firm performance, *SAGE Open*, 13(2), 1-11. <https://doi.org/10.1177/21582440231164593>
- Rashid, A. (2016). Impact of inventory management in downstream chains on customer satisfaction at manufacturing firms. *International Journal of Management, IT and Engineering*, 6(6), 1-19.
- Rashid, A. Rasheed, R., & Amirah, N. A. (2023). Information technology and people involvement in organizational performance through supply chain collaboration. *Journal of Science and Technology Policy Management*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/JSTPM-12-2022-0217>
- Rashid, A., Ali, S. B., Rasheed, R., Amirah, N. A. & Ngah, A. H. (2022a). A paradigm of blockchain and supply chain performance: a mediated model using structural equation modelling. *Kybernetes*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/K-04-2022-0543>
- Rashid, A., Amirah, N. A., Yusof, Y., & Mohd, A. T. (2020). Analysis of demographic factors on perceptions of inventory managers towards healthcare performance. *The Economics and Finance Letters*, 7(2), 289-294. <https://doi.org/10.18488/journal.29.2020.72.289.294>
- Rashid, A., Rasheed, R., Amirah, N. A., & Afthanorhan, A. (2022b). Disruptive factors and customer satisfaction at chain stores in Karachi, Pakistan. *Journal of Distribution Science*, 20(10), 93-103. <https://doi.org/10.15722/jds.20.10.202210.93>
- Rashid, A., Rasheed, R., Amirah, N. A., Yusof, Y., Khan, S., & Agha, A., A. (2021). A Quantitative Perspective of Systematic Research: Easy and Step-by-Step Initial Guidelines. *Turkish Online Journal of Qualitative Inquiry*, 12(9), 2874-2883. <https://www.tojqi.net/index.php/journal/article/view/6159/4387>
- Rweyendela, A. G., & Mwegoha, W. J. (2022). The treatment of climate change impacts and adaptation in the environmental impact assessment of the Standard Gauge Railway project in Tanzania. *Climate and Development*, 14(3), 239-249. <https://doi.org/10.1080/17565529.2021.1911774>
- Setia, M. S. (2016). Methodology series module 3: Cross-sectional studies. *Indian Journal of Dermatology*, 61(3), 261–264. <https://doi.org/10.4103/0019-5154.182410>
- Stephen, K. (2021). Use of force account procurement method for development of small and medium contracting firms in Mbeya. *International Journal of Finance Research*, 2(2), 94–110. <https://doi.org/10.47747/ijfr.v2i2.311>
- Sutinen, J. G., & Kuperan, K. (1999). A socio-economic theory of regulatory compliance. *International Journal of Social Economics*, 26, 174-193. <https://doi.org/10.1108/03068299910229569>
- Tavakol, M., & Dennick, R. (2011). Making sense of Cronbach's alpha. *International Journal of Medical Education*, 2, 53-55. <https://doi.org/10.5116/ijme.4dfb.8dfd>
- Välilä, T. (2020). An overview of economic theory and evidence of public-private partnerships in the procurement of (transport) infrastructure. *Utilities Policy*, 62(100995), 100995. <https://doi.org/10.1016/j.jup.2019.100995>