Perceived Robustness and Efficacy of Procurement Risk Controls: a Tanzanian Public Sector Context

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Abstract

Public organizations have repeatedly failed to fulfil their promise of achieving value for money due to their over-reliance in procurement management and neglecting the need to astutely manage procurement risks. This study examined the maturity and effectiveness of risk controls in public organizations. The study adopted a descriptive design and the study area was Dodoma and Dar es Salaam where 40 questionnaires were distributed to the randomly selected procuring entities and filled by procurement practitioners. Collected data were analyzed using descriptive and inferential statistics. Findings were significant regarding the contribution of training to risk control (p-value=0.012). However, the contribution of training to risk control is 45.59%. Findings reveal the risk controls in public entities were immature (p-value=0.780) because organizations limited their risk control efforts to risk identification only. Therefore, procuring entities are required to upscale their risk control efforts by emphasizing on risk management and control as part of procurement management.

Keywords: Procurement risks, Risk registers, Risk controls, Procuring entities

Introduction

Essentially, risk management has been very important over the years and it was studied by various scholars after the Second World War. Risk management has been associated with the application of market insurance to protect individuals and business companies from various losses that are linked with accidents. From 1950's other forms of risk management which were alternatives to market insurance began to emerge. The emergencies of other forms of risk management were due to high cost of market insurance and its inability to offer complete protection against pure risk (Dionne, 2013).

Nevertheless, most of risk management practices during this period were mainly attached to financial risk management and not pure risk management. From the late 1950's risk management was broadened to incorporate risk portfolios like protection and coverage against work related illnesses and accidents. In actual fact, the modern risk management that extends beyond the financial losses began evolving in 1955. In the year 1970 the concept of risk management became less limited to market insurance coverage. Self-protection activities have become very important recently, Self-protection schemes affect the probabilities of losses or cost before they arise as a result of occurrence of events (Dionne, 2013).

Williams (2004) accentuated those risks could be avoided or significantly reduced if warning signs of high-risk elements in business projects are circulated before occurrence of such risks. Procurement has undergone massive evolution from a simply reactive activity to a more proactive orientation such that today procurement is one of the core activities of an organization's supply chain (Monczka *et al.,* 2009). Since procurement is among the cornerstones of organizational performance and its propensity to forge relationship with external supply chain players it is highly vulnerable to

diverse internal and external risks (Ejlskov, 2012).

Mlinga (2009) alluded that procurement consumes about 10% to 30% of countries' Gross National Product (GNP). In the Organization for Economic Cooperation and Development (OECD) countries it is estimated that 12% of country's GDP is expended in procurement and it is approximated that 63% of general government expenditure in OECD countries' allotted share is to procurement (OECD, 2016). This makes it necessary for organizations to put in place robust measures to manage the unfolding risks that may curtail effective outcomes from a procurement process (Ejlskov, 2012).

The events that occur throughout the procurement process have the potential to adversely affect the procurement outcomes. Hence, organizations must put in place risk management framework together with risk indicators that will inform procurement practitioners to take precautions throughout the procurement process (OECD, 2009). Cagliano *et al.* (2012) revealed that despite the growing need for risk management in procurement, most organizations including public organizations lack a risk culture and whenever the risk control approaches were introduced, they were too general and vague.

In Tanzania, various reports published by scholars, OECD, Transparency International, PPRA, CAG and other institutions have demonstrated that there is substantial underachievement of value for money procurement in public sector. According to O'Keeffe (2004) the underachievement in procurement can be attributed to the belief that managing procurement can lead to achievement of desired outcomes whilst neglecting the need to have a robust and matured risk management strategy in procurement process. Due to the ever-present procurement failing to achieve the desired value for money objective it visibly shows that public organizations are far off from effectively managing procurement risks and that lone procurement management does not suffice the need to effectively combat procurement risks.

Despite suggestions by PPRA (2019) that the overall performance in terms of compliance levels of procuring entities was generally good at a resounding 84%, there were still deficiencies in the procurement process. These deficiencies include procurement made without necessary approvals, delay in completion of projects, payments made for unsupplied goods, acquisitions from unapproved list of suppliers, inadequate preparation and implementation of procurement plans and contracts, receiving goods without proper inspection, corruption and others which may translate to an absolute loss or risk-induced losses in the public procurement process (OECD, 2016; CAG, 2019).

Guided by the Protection Motivation Theory (PMT), this study focused on assessing the maturity of contemporary procurement risk controls applied by procuring entities throughout the public procurement process and the yielded results of risk interventions placed to control risk effects based on the perceptions of the practitioners of procurement field.

Materials and methods

The aim of this study is geared towards the adoption of a descriptive design since the focus was to portray the current state of affairs pertaining to procurement risk control. The study was conducted in Dodoma and Dar es Salaam where it is apparent that currently the majority of government organizations (both policy focused organizations and executing organizations) are found. The main aim was to determine the strength of the risk controls utilized by procuring entities towards a risk-free public procurement. The target population for this study was the totality of procurement practitioners who were working with public organizations in the selected area of study. According to Cooper & Schindler (2014), under qualitative or perception-based studies the sample units are selected arbitrarily based on their characteristics, experiences, attitudes and perceptions. Thus, the sample size includes 40 active procurement practitioners from various procuring entities in the selected area of study. The procurement practitioners were selected from procuring entities without replacement in the sense that no procuring entity had more than one responding procurement

practitioner.

Purposive sampling was used to select procurement practitioners from the procurement professionals' forum (WhatsApp group) that is made up of active procurement practitioners in various procuring entities. The purposively selected procurement professionals were provided with a google created questionnaire (Google form) to provide their responses.

The study collected data that were quantitatively analyzed and presented to facilitate easy interpretation and drawing of conclusions. The data collected were both primary and secondary data and were collected using questionnaires and documentary review. The questionnaires consisted of open and closed questions. Documentary review involved PPRA reports, CAG reports and the Procurement related legislations. The data collected by questionnaire were descriptively analyzed while documentary review used both content analysis and narrative analysis. Exploratory Data Analysis (EDA) was used to understand data in the form of tables and figures.

Results and Discussions

Response rate

The study envisaged collection of data from 40 sampled respondents, the actual responses collected and used for analysis were 36 which equates to 90% response rate. The demographic profile of the respondents and their study-based responses are presented hereunder.

Demographic characteristics

Tanzania public organizations are divided into several categories depending on the Law that establishes a particular public organization. Findings have shown that 30.6% are Local Government Authorities (LGAs), 30.6% are Parastatals, 19.4% are Executive Agencies or Authorities, 5.6% are Ministerial organizations and 13.9% are Independent Departments. These findings show that Local Government Authorities (LGAs) and Parastatals accumulated a huge portion of presentation because Local Government Authorities (LGAs) and Parastatals have the largest share of public organizations in Tanzania.

Table 1: Distribution of respondents by organization type (n=36)

Type of organization	Frequency	Percent (%)
Local Government Authorities (LGAs)	11	30.6
Parastatals	11	30.6
Executive Agencies/ Authorities	7	19.4
Ministries	2	5.6
Independent Departments	5	13.9

Source: Survey Data (2020)

Academic and professional education is paramount for effective discharge of duties and professional obligations of procurement practitioners. The results indicate that 38.9% acquired Bachelor or Advanced Diploma, 58.3% were Master degree holders and 2.8% were Doctoral degree holders. This implies that the majority of respondents were rigorously trained to become skilled and competent which is a pre-requisite for effective discharge of procurement duties. Through their high education levels, practitioners are expected to have a good command of managing procurement and its sub-processes.

Table 2: Distribution of respondents by education level (n=36)

Level of Education	Frequency	Percent (%)
Bachelor Degree/ Advanced Diploma	14	38.9
Master Degree	21	58.3
Doctoral Degree	1	2.8

Source: Survey Data (2020)

Experience provides the platform for procurement practitioners to be exposed to challenges so as to assimilate what constitutes the best practices. The respondents were asked to explain their work experience in relation to procurement. The findings show that 33.3% had less than three years work experience, 13.9% had work experience between three to five years,

and 44.4% had work experience between five to ten years. While, 8.3% had experience which is more than ten years in procurement field. Assuming that more experience implies better comprehension of procurement related duties, therefore, the respondents were well versed with the necessary knowledge of procurement.

Table 3: Distribution of respondents by work experience (n=36)

Work Experience (Years of Service)	Frequency	Percent (%)
Below 3	12	33.3
3 to 5	5	13.9
5 to 10	16	44.4
More than 10	3	8.3

Source: Survey Data (2020)

The findings show that 47.2% were registered as Graduate Professionals (GP), 33.3% were registered as Approved Professionals (AP) and 8.3% were registered as Authorized Professionals (AU) while 11.1% were outrightly unregistered. These findings show that the majority of respondents were in possession of the necessary qualifications to practice procurement in Tanzania as it is stipulated under Section 13(1) of the PSPTB Establishment Act. Having these qualifications implies that the respondents have the necessary professional trustworthiness and maturity to be entrusted with the task of managing public procurement.

Table 4: Distribution of respondents by registration status (n=36)

Registration Status	Frequency	Percent (%)
Graduate Professional- GP	17	47.2
Approved Professional- AP	12	33.3
Authorized Professional- AU	3	8.3
Unregistered	4	11.1

Source: Survey Data (2020)

The relationship between training and procurement risk control effectiveness

Literary it is believed that training leads to improved performance and that is why public organizations set aside funds purposely for employees to undergo Continuous Professional Development (CPD) programs. This study wanted to establish the role of training on effective risk control. As such it wanted to establish the propensity of procurement practitioners to attend training related to procurement risk control and the type of training attended. The findings show that 78.8% respondents have attended training pertaining to procurement risks control at least once while 22.2% respondents have insinuated that they have never attended any training pertaining to risk control in procurement. Those who attended training further argued that the type of training they attended was mainly short courses in form of seminars, workshops and conferences which amounts to 89.3% while only 10.7% have attended long courses.

To further establish the association between training and the improvement in risk control in public procurement towards a more effective risk control, the McNemar test analysis (X^2) of before and after was computed. Results point out that there is a significant association (X^2=5.82; p-value=0.012) between training and improvement in risk control effectiveness amongst procurement practitioners. These findings are concurrent with the notion held by Guile (2013) who contended that it is vital that officials engaged in procurement and related financial decisions are properly trained to be able to identify risks and fraud in procurement processes. Also, Khan *et al.* (2011) argued that training and the way training is designed and structured have a significant contribution in enhancing employees' skills and hence a relevant

Table 5: Relationship between training and risk control effectiveness

Variable	Value	Df	Exact Sig. (2-sided)
Procurement risk-based training	5.82	1	0.012

Source: Survey Data (2020)

boost of functional and overall organizational performance.

A Phi-coefficient was computed to determine the magnitude of relationship between training and risk control effectiveness. A Phi-coefficient was used since the McNemar test doesn't entail the magnitude of relationship between variables. The Phi-coefficient (ϕ) computed shows that training has only a 45.59% contribution towards effective risk control. The low contribution of training towards risk control implies training on procurement risk control is less effective in helping organizations to control procurement risks.

Utilization and efficacy of risk controls

Procurement in public organization purchases variety of items to meet public organization needs which requires having their underlying risks clearly identified and controlled. The approaches to risk control are identified and enumerated in the risk register. The procurement practitioners were asked to respond to the determination as to which items are more subjected to development of a thorough risk register throughout the relevant stages of the procurement or tendering process.

Using a Pearson Chi-Square test (X^2) with a confidence level of 95% the findings were significant (X^2=36.047, p-value=0.0003). Since the p-value is less than the significance level (p-value<0.05) it implies that the sampled procuring entities are preparing and utilizing risk registers for all categories of procurement and the risk register captures vital risks in each of the relevant tendering stages. The findings are inconsistent with CAG (2020) observations that argued 41 percent of audited entities were not in possession of risk registers for the relevant financial year 2018/19. However, the disparity on the findings is caused by the difference in scope as CAG covered a sizeable number of public bodies as compared to the sampled entities in this study.

Table 6: Utilization and efficacy risk controls

Description	Value	Df	Asymp. Sig. (2-sided)
Applicability of risk registers	36.047	12	0.0003
Efficacy of risk controls	5.590	9	0.780

Source: Survey Data (2020)

Developing a risk register is paramount as it is a document that captures vital information to control risks. The procurement practitioners were further asked to identify the type of information captured when preparing risk register. The findings show that 36.1% stated that risks are identified, prioritized, control measures developed and key resources to control risks are identified and allocated. 38.9% stated that they identify risks, prioritize risks and formulate control measures while 19.4% entailed that they only identify risks and 5.6% identify risks and prioritize risks only.

These findings shed light on how the prepared risk registers are not competent and robust since most of sampled respondents demonstrated that they don't include all the vital information that are useful in controlling risks in their risk registers. The organizations mostly limit their efforts in identifying risks and ignoring the formulation of control measures as well as the pre-allocation of resources that are vital in mitigating both foreseen and unforeseen risks. CIPS (2012) states that for effective risk control an organization should adopt a holistic approach of preparing a fluid risk register for each procurement which will list the prevalent risks and the response to that risk including the allocation of responsibility of managing a particular risk to a defined party capable of controlling the risks.

The procurement process needs to include risk controls that can be generic or tailor made so as to ensure a risk-less procurement towards achieving value for money. The procurement practitioners were asked about their perception on the degree of effectiveness of the risk controls entailed in the risk registers. The Pearson Chi-Square test with a confidence level of 95% found that the risk controls formulated and implemented in the risk register are not effective. The ineffectiveness of the risk control is determined from a statistics test that gives the results X^2=5.590, p-value=0.780 as shown in

table 6.

To establish the magnitude of contribution of these risk controls enumerated in risk registers a coefficient of contingency (C) was computed and it was found that the risk controls have only a 36.7% contribution towards risk control effectiveness. These findings imply that the risk controls implemented by public organizations are highly ineffective and do not contribute to avoidance or reduction of risks embedded in the procurement process and hence curtail the ability of organizations to achieve value for money from procurement process. These findings align with the stipulation made by CAG (2020) that procuring entities have shortfall in risks assessment and control due to lack of risk management policy or using risk registers that were not updated in due course.

Common risks in public procurement process

Public procurement is depicted as a process with distinct but interrelated sub-processes which includes procurement planning, budgeting and resource confirmation, specification statement preparation, solicitation of bids, evaluation of bids, contracting and contract management (Kachru, 2011; CIPS, 2013).

The respondents were asked to mention the key risks that they still perceive to be overriding the effectiveness of public procurement process. The results show that during the procurement planning, 16(48.5%) procurement practitioners perceive insufficient funding as a risk and 14(42.4%) perceive understatement of requirement as risk. It implies that procuring entities are faced with a challenge of achieving their long and short term objectives by failing to purchase the requisite inputs due to budgetary constraints. Also, it is established that organizations fail to forecast accurately just as the legislation requires and hence exposing the organizations to needless emergency procurement downstream. These findings align with the observations made by OECD (2009) who argues that there is generally poor procurement planning and failure to budget objectively and hence budget deficiency.

Specification of requirement is another vital step in the procurement process and the respondents were asked about the key risks that are underpinning effectiveness of specifications prepared. It was found that 24(75%) procurement practitioners perceived incomplete and inadequate specification to be a risk and 6(18.8%) observed that very narrow specification is a risk embedded in the specification process. These results imply that there is erroneous specifications development which may affect further processing of procurement pertaining particularly to evaluation since specifications are part of selection criteria and the downstream impact in the implementation phase where delays and cost overruns happen as a result of the need to revise specifications. These findings are congruent with OECD (2009) who postulated that during specification preparation the key risk is having technical specifications which are unclear and have unnecessary restrictions that are aimed at limiting competition.

The key risks mentioned by the procurement practitioners during evaluation and selection include political or management intervention 11(30.6%), wrong quantification of evaluation criteria 10(27.8%), biased evaluation 6(16.7%) and corruption 4(11.1%). The frequent political or management interventions occur more in Local Government Authorities (LGAs) with a 45.5% share of all responses. These results are in line with the findings made by Pashev (2009) and Ferwerda *et al.* (2016) that in public procurement, corruption is a mainstay because it is a highly systemic structured syndicate of top public officials and hence it is common to see these officials influencing the evaluation process so as to repay the faith entrusted on them by the bidders in their private dealings.

Also, during evaluation and selection it was found that procurement practitioners perceive that there is lower likelihood of selecting a bidder based on presentation of forged and misleading information that makes them be falsely qualified for the contract award while they actually lack the necessary eligibility qualifications. This means that there is lower possibility of selecting a bidder based on false information because officials are becoming increasingly aware of the need to conduct a thorough due diligence. These results contradict with OECD (2012)

which argued that there is a lack of effective implementation of four eyes principle during evaluation of bids.

Concerning contract management, the procurement practitioners responded by suggesting that the key perceived risks at this stage are price variations 10(27.8%), forming a contract management team with technically incompetent persons 9(25.8%) and corruption 6(16.7%). Also exchange rate fluctuation 3(8.3%), contract disputes 3(8.3%) and improper time management 1(2.8%). A close look at the risk perceived by the procurement practitioners to be recursive during contract management gives an impression that they are all attributed to poor contract management due to having incompetent persons managing the contract. The Public Procurement Regulations through Reg.243(1) and Reg.319 necessitates that it is paramount for a procuring entity to monitor the service provider or contractor's performance against the terms of the contract and whenever necessary the accounting officer subject to Reg. 252(1) and (2) shall appoint a works or non-consultancy service supervisor to manage the execution of works and non-consultancy services contract. These findings are congruent with arguments by Nesbitt (2017) who postulated that organizations are suffering from contract invisibility, which is the suboptimal ability of organizations to retrieve, analyze and track contract performance.

Robustness of risk controls

This study wanted to establish to what extent the risk measures or controls exerted by public organizations suffice the need to effectively combat the risks in procurement processes. The responding procurement practitioners were asked to express as to what extent they are capable of achieving faultless procurement outcomes. The findings reveal that there are faulty outcomes from a procurement process as procurement practitioners stated that there is an occurrence of cost overruns 15(41.7%), frequent late deliveries 16(44.4%), substandard goods or works provided 4(11.1%) and contractual disputes 1(2.8%). These findings imply that procuring entities while are less exposed to procurement of low quality and occurrence of contractual disputes, they are increasingly susceptible to cost overruns and deliveries made ahead of agreed schedule. The occurrence of aspects like cost overruns and late deliveries from a procurement process shows that the risk control measures enacted by organizations are less effective and incapable of protecting the organization from achieving such calamitous purchases.

These findings are congruent with the findings made by Gbahabo and Ajuwon (2017) who stated that the problem of cost overruns and schedule delays is highly prevalent in Sub-Saharan Africa especially for infrastructure projects and that the problems of cost overruns and schedule delays are not caused by the absence of any robust estimation technique but rather reliance on a rule of thumb of setting additional allowance above the initial cost and time estimates.

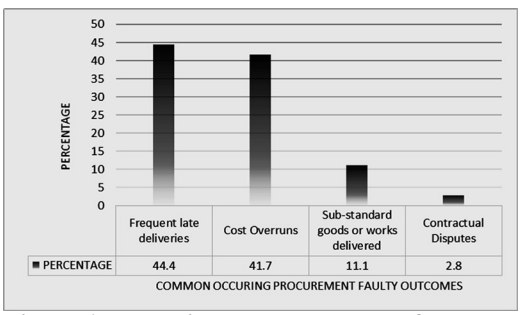

Figure 1: Undesired outcomes from a procurement process
Source: Survey Data (2020)

This study was guided by Protection Motivation Theory (PMT) that states that the likelihood of occurrence of a threat and the effectiveness of coping measures to the probable threat had a positive effect on intentions to devise and put into place preventive behavior (Maddux & Rogers, 1983). Drawing from this theory it means that procurement practitioners should be aware of the likelihood of occurrence of risks as a threat to the overall achievement of value for money which is widely regarded as a fundamental procurement objective and principle. Failure to achieve value for money that is built on the pillars of reasonable cost, best

quality and optimum delivery times may imply that organizations are not proactive in devising robust and effective preventive measures that help organizations evade the problems associated with bad procurement.

Conclusions and Recommendations

The aim of this study was to determine the maturity or robustness of the prevalent risk controls in public organizations towards curtailing risks and hence maximizing value for money. The study findings enable to draw conclusions that procurement practitioners are trained on procurement risk controls but the impact of that training on risk controlling is minimal to the extent that public entities are still making bogus purchases. Public entities have demonstrated to lack proper risk control interventions that seek to protect organizations against risk induced financial losses.

In the light of the findings, it is therefore, recommended that procuring entities should have risk management policies and risk registers that are procurement specific and always strive to update the same from time to time to defray the emerging risks both within the organization or those induced by tenderers. Further, the stakeholders who are engaged in the procurement process to bring in some vital inputs during specification development, evaluation, negotiation and contract management should be encouraged to identify risks and work in close collaboration with the procurement practitioners to identify and control risks. Also procuring entities are encouraged to always use experts who have unquestionable integrity in helping the procurement process regardless of whether they are found within or outside of the organization. The inclusion of experts with unquestionable integrity is pivotal so as to overcome the problem of conducting procurement in a manner that does not comply with the country's legal framework and thus exposing organization to severe risks. The problem of inadherence is stated by PPRA (2019) that in the process of executing the procurement process, some stakeholders who are involved do not adhere and comply with the stipulations in the Public Procurement Act and Public Procurement Regulations.

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