# Buyer-supplier collaboration's commitment. An antecedent for procurement performance of large manufacturing entities in Tanzania

Buyer– supplier collaboration's

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### Abstract

**Purpose** – This study was steered to establish how buyer–supplier collaboration's commitment attributes serve as an antecedent for procurement performance in large manufacturing entities in Tanzania.

**Design/methodology/approach** – A parallel, concurrent, mixed method was used in the study. Quantitatively, 52 firms were surveyed from Temeke Municipality, Tanzania, using questionnaire that specified 1 procurement manager and 1 store manager from those firms, totaling a sample size of 104 respondents. Qualitatively, expressive opinions to supplement the numeric data were gathered from supply chain managers using the saturation principle. Explanatory design analyzed the existing cause–effect relationship, and the null hypotheses were tested using binary logistic regression at p values < 0.05 and ExpB > 1.

**Findings** – Fidelity and enthusiasm to suggest improvements to suppliers and the duration of the collaboration antecede the procurement performance of the manufacturing firms in Tanzania, while devotion to invest resources and initiatives on joint problem solving have no significant impact.

**Research limitations/implications** – The causality between buyer–supplier collaboration and procurement performance has been revealed. Since there might be third party logistics in collaborations, future research should center on their moderating effect.

**Practical implications** – A framework has been developed for liberating procurement performance in the context of large manufacturing firms in Tanzania.

Originality/value – Based on Transaction Cost Economics and Resource Dependency Theories, the study revealed the root cause of procurement performance in the context of Tanzanian manufacturing firms, while also considering commitment to buyer–supplier collaboration as a prerequisit for the commendable target.

**Keywords** Buyer–supplier collaboration, Procurement performance, Logistics, Strategic manufacturing **Paper type** Research paper

### 1. Background to the study problem

Procurement is entailed as a very imperative bustle for availing materials from the suppliers to the manufacturing entities. Relationship management is paramount for effective performance (Butt *et al.*, 2022; Collier *et al.*, 2022; Deep *et al.*, 2020; Cox *et al.*, 2004). The nature and patterns of vertical work relationships between buyers and suppliers are profoundly important and, as a result, plea for commitment-based collaborations (Abe *et al.*, 2021). Performance of relationship is a result of firms' trust and fairness which entreaties for firm's commitment (Yang *et al.*, 2020a, 2020b). Due to the importance of procurement, procuring entities are influenced to adopt the buyer–supplier collaboration to withstand the competitive environment (Deep *et al.*, 2021; Gadde and Dubois, 2010; Ey *et al.*, 2014). Buyer–supplier collaboration featured with commitment is described as resource advantage



Benchmarking: An International Journal © Emerald Publishing Limited 1463-5771 DOI 10.1108/BIJ-03-2022-0174 for the performance (Aslam et al., 2022; Chang et al., 2020; Ev et al., 2014; Autry and Golicic, 2010). Studies guided by the Resource Dependency Theory (RDT) and/or Transaction Cost Economics Theory (TCET) exemplify that commitment of buyer-supplier relationship is indispensable (Fossas-olalla et al., 2013). Despite its importance, practically, the procurement performance of large manufacturing entities in Tanzania is a challenge (Kimario et al., 2021; Mboghoina et al., 2014). The experience showed a vivid challenge through inability to deliver manufacturing supplies of the right amount, right quality, at the right time and at the right price (Saraja, 2013). Stemming from the significance of the procurement practices, the government of Tanzania has introduced policies and strategies to eradicate binding restraints in the manufacturing sector. In the first instance, a Sustainable Industrial Development Policy (SIDP) was recognized (United Republic of Tanzania (URT), 1996). This movie was set to tie buyers and suppliers. In the course of time, an Integrated Industrial Development Strategy (IIDS) was further put in place in retort to the perceived limitations of SIDP (URT, 2011). Despite these policies and strategies, investigations revealed that procurement performance in the large manufacturing entities was only partly addressed, leaving timely supply of the required quantity of materials unsatisfactory (Wilium, 2016). Failure to deliver timely and in the required quantity results into inventory under stocking costs (Hofman, 2020). Thus the scenario entails quick intervention to rally commitment of buyer-supplier collaboration. Different scholars narrated commitment of buyer-supplier collaboration as of a great essence (Tolmay and Antwerpen, 2021). The aforementioned assertion that unsatisfactory performance was due to a lack of commitment, on the other hand, could be due to a lack of fidelity to suggest improvements to suppliers, joint problem solving, the duration of the relationship and enthusiasm to invest resources in the relationship. All of these assumptions stem from the fact that it has been documented elsewhere that the manifestation of buyers devoted to supplier business improvements (Stuart et al., 2012), joint problem solving (Feizabadi and Alibakhshi, 2022; Matevž and Maja, 2013), investment of resources to the relationship (Srivastava et al., 2021) and the duration of the relationship (Damlin et al., 2013; Autry and Golicic, 2010) is associated with the performance. As a result, as revealed by Loice (2015), little has been documented elsewhere on the commitment of buyer-supplier collaboration, and much emphasis has been placed on performance in terms of cost and/or quality, leaving the timely delivery of the right quantity of materials unaddressed.

The ability to deliver materials at the right time and in the right quantity to the manufacturing firms has a consequent impact on the social wellbeing due to timely availability of the required supplies produced by those firms to the society and hence serves as part of the Environmental Social Governance Agenda (ESG). ESG is highly spearheaded by developed nations to address contemporary issues of the society (Betsill et al., 2022). Studies from developed nations show procurement performance of developed nations braced from the committed buyer-supplier collaborations is promising (Agarwal and Narayana, 2020; Butt et al., 2022). It was important to focus on this area because the procurement function (buying side) of the manufacturing firms of Tanzania are eveing for scientific key of unlocking themselves from unreliable supply of procured materials (Mboghoina et al., 2014). The societal impact resulting from smooth operations of manufacturing firms in Tanzania includes the provision of employment opportunities and the timely supply of the products to the market for consumption. Tanzania is a developing country, so it is necessary to determine how commitment to buyer-supplier collaboration influences the procurement performance of its manufacturing entities. Empirically, the study of Matevž and Maja (2013) recommended future related studies on buyer-supplier relationships should stick on the buyer's side (procurement function).

The development of effective commitment of buyer–supplier collaboration in the manufacturing sector in Tanzania as a developing nation is paramount given the significance

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of the sector in the country. The sector contributes an average of 8% of the Gross Domestic Product (GDP) (URT, 2016). The country's expectation is to become a semi-industrialized economy by 2025 whilst contributing more than 40% to the economy (URT, 2017). One important area to ignite the intervention in the manufacturing entities is in the procurement function as it serves as the driving engine of these entities. Kimario *et al.* (2021) from the empirical setting called for the need to undertake this mixed study using quantitative and qualitative data in Tanzania. Therefore, considering the presence of unsatisfactory performance, given the existing buyer–supplier environment, this study aimed to develop a framework entailing the inspiration of commitment of buyer–supplier collaboration facets (fidelity of manufacturing entities to suggest improvements to suppliers, joint problem solving initiatives, relationship's duration and investment of resources to the collaboration) as an antecedent for the procurement performance in terms of delivery of right quantity of materials at a time to the large manufacturing entities in Tanzania.

### 1.1 Theoretical literature review

This study borrowed knowledge from the theoretical thinking of TCET and RDT through skillful manner so as to gather the understanding on the influence of commitment of buyer—supplier collaboration on the procurement performance of large manufacturing entities in Tanzania as follows.

1.1.1 Transaction Cost Economics Theory. Transaction Cost Economics Theory (TCET) ascertains buyer—suppliers' relationships as an evolving third alternative after market and hierarchical structures (Williamson, 1975). Besides, TCET is one of the most prominent theories on inter-organizational supremacy structures (Williamson, 1975). Further, the judgment on governance needs to reflect the partners' self-interest (opportunism) (Mungra and Yadav, 2022). TCET pinpoints that governance of relationships is anticipated by the behavioral uncertainty and asset specificity and hence opportunism (Williamson, 1975). Strategic supplier relationships based on relational governance is more crucial than its alternatives (Tolmay and Antwerpen, 2021). The theory stipulates relationship-specific investments and reduced uncertainty as animated for the success of relationship to wane the risk of opportunism (Williamson, 1975).

The choice of this theory is established on the fact that buyer—supplier collaboration helps entities to improve procurement performance through commitment thus reduce opportunism (Mungra and Yadav, 2022). The theory suitably supports unsatisfactory performance of buyer—supplier relationship is a function of opportunism determined by fidelity to suppliers, joint problem solving and management of the relationship's duration (Feizabadi and Alibakhshi, 2022; Matevž and Maja, 2013; Damlin *et al.*, 2013; Stuart *et al.*, 2012; Autry and Golicic, 2010). Other scholars who analyses the implication of buyer—supplier collaboration on the performance were guided by TCET and this includes Kimario and Mwagike (2021) and Fossas-olalla *et al.* (2013). However, none of these scholars beheld commitment of buyer—supplier collaboration nexus procurement performance in the context of large manufacturing entities in Tanzania.

The theory has been commonly circumscribed to the transaction cost efficacy for buyer—supplier collaboration and henceforth other performance contexts have been assumed away. In reality, few buyer—supplier collaborations are merely based on transaction costs only (Faulkner, 1995). Therefore, studies guided by TCET have been focusing more on cost reduction contrary to avail procurement requirements which insists on the need to procure materials of the right quantity and right quality at the right time and in a reduced cost. This has been the case following the fact one of the few documented study in Tanzania guided by TCET is that of Msemwa *et al.* (2017). The study on the influence of buyer—supplier relationship on the performance of maize market viewed cost performance in terms of

profitability, sales volume, market growth and sales revenue (Msemwa et al., 2017). Kimario and Mwagike (2021) viewed communication of buyer–supplier relationship against procurement performance in terms of delivered quantity and delivery time of manufacturing materials but nothing was covered with respect to commitment of the relationship. It is against this literature that the influence of buyer–supplier relationship opportunistic determinants (fidelity to suppliers, joint problem solving and the relationship's duration) on the procurement performance (timely delivery of the required quantities) of large manufacturing entities in Tanzania was sought using TCET.

Therefore, the theory under study was suitable in elucidating the use of uncertainty behavior as a transactional governance mechanism to study the influence of commitment of buyer—supplier relationship opportunistic attributes (fidelity to suppliers, joint problem solving and the relationship's duration) on the procurement performance in Tanzania. However, while raw material resources needed for manufacturing are very scarce, TCET has failed to detail the commitment of buyer—supplier collaboration resourcefulness for the reliable acquisition of external resources for manufacturing entities in Tanzania. Moreover, with the response to this shortfall, the need for the next theory has been called for to fill the existing gap.

1.1.2 Resource Dependence Theory. Resource Dependence Theory hold that resources are very scarce and organizational strength is vested on the ability to rheostat critical resources from the peripheral environment consequently increasing guarantee of its outcome (Chu et al., 2012). Resource control is essential for thoughtful internal and external whereabouts of organizations (Clegg et al., 2006). A staple challenge of network novelty is the issue of how to govern resource interactions in relationships (Laursen and Andersen, 2022). Furthermore, the utmost powerful actor can sway the others (Emerson, 1962). Collaborative relationships attest to be an antecedent for performance when there are equal power resources or interdependence between collaborating parties (Chicksand, 2015). It is further pointed out that, entities should institute novelty on the means of assurance of obtaining those external resources for the livelihood of their operations. The procurement haggling power on outside possessions is vital for strategic orientation of any focused entity (Zhang et al., 2022). More to the joint, RDT has acknowledged much in elucidating buyer-supplier collaboration nexus performance either in supply chain performance or procurement performance, or the intact firm performance (Mwesigwa and Nondi, 2018; Kimario et al., 2021). The theory is appropriate in this scholarly study for the reason that collaborative buyer-supplier relationship milieu demands strong commitment toward same goals (Abe et al., 2021). Also, RDT is highly applicable to the study because buyer—supplier relationship is renowned as a resource plus for enhancing procurement performance through joint decision making (Gulati and Sytch, 2007). This situation has tempted a need to for research that engaged RDT in describing on how buyer-supplier relationship is vital for the procurement performance in terms of timely delivery of right quantity of material resources for the operations of manufacturing entities in Tanzania.

However, RDT is strappingly reasoned as one of the paramount theories to detail on organizational behavior but it is challenged from its capacity to elucidate performance attributes on its own (Nienhüser, 2008). Nevertheless, this study deliberates on the cause–effect relationship of commitment of buyer–supplier collaboration on the procurement performance using behavioral aspects, namely (fidelity to suppliers, joint problem solving and the relationship's duration). The nature of the study at hand warranted amalgamation of RDT and TCET. Moreover, this blend has been chosen based on the ground that both RDT and TCET are capable of envisaging comparable results (Nienhüser, 2008). Therefore, RDT was shared with TCET to pronounce the effect of commitment of buyer–supplier collaboration by exhausting fidelity to suppliers, joint problem solving, and the relationship's duration on timely delivery of the required quantity of materials in large manufacturing entities in Tanzania.

### 1.2 Empirical literature review

This study involves critical review on the role of other scholars on the whole issue of the influence of commitment buyer–supplier collaboration related to the performance whereby acknowledged gaps were identified. Generally, collaboration is regarded as vital for the performance (Hoque and Maalouf, 2022; Yang et al., 2020a, 2020b; Jääskeläinen and Thitz, 2018). Specifically, commitment between buyers and suppliers is very vital for stable relationships (Deep et al., 2018; Loice, 2015; Cook et al., 1983). Past studies on the emphasis of commitment of the buyer–supplier collaboration on the performance show how the practice is embraced. A study by Loice (2015) argued commitment of the buyer–supplier relationship determines the procurement performance of entities in Kenya. Despite of the emphasis, Kamau (2013) realized commitment of buyer–supplier relationship is vital for the performance of large manufacturing entities in Kenya is not well appealing. Therefore, based on those findings, the study focused on the influence of commitment of buyer–supplier collaboration on the procurement performance rather than the entire organizational performance to uncover what exactly prevails in the context of Tanzania.

Specifically, commitment in terms of fidelity of the buyers to develop their suppliers through suggesting areas that need future improvement is considered to be an important adoption of the buyer's performance (Azadegan et al., 2022). However, the study of Azadegan et al. (2022) was conducted from developed countries. Conversely, since the performance of buyer—supplier collaboration of Tanzanian manufacturing entities is poor, the researcher was motivated to understand on how Tanzanian manufacturing buyers are devoted to their suppliers through sharing to be improved to see whether what prevails in developed countries is the same as for the developing countries. Therefore, it is against this empirical evidence that the study has analyzed the influence of fidelity in terms of enthusiasm to invest resources to the collaboration on the procurement performance of large manufacturing entities in Tanzania.

Therefore, knowing that suggesting on suppliers' business improvement is among the aspects of supplier development of the following hypotheses were postulated:

- Ho.1.1 Fidelity on enthusiasm to suggest improvements to the supplier business is not a commitment antecedent in the buyer–supplier collaboration for the procurement performance in terms of delivery time of materials in large manufacturing entities in Tanzania.
- Ho.<sub>1.2</sub> Fidelity on enthusiasm to suggest improvements to the supplier business is not a commitment antecedent in the buyer–supplier collaboration for the procurement performance in terms of delivered quantity of materials in large manufacturing entities in Tanzania.

Duration of the buyer—supplier collaboration is termed as an important aspect that one should use to measure the extent to which commitment determines the performance (Damlin et al., 2013). It has been suggested that outcomes of the buyer—supplier collaboration commitment are directly linked to the period of the collaboration. Therefore, the longer the collaboration, the better the commitment is (Zhang and Morley, 2022). Contrary to that emphasis, most of the study findings have revealed that the duration of buyer—supplier collaboration has got a minimum impact to performance (Ganesan, 2019). However, all those studies were conducted in developed countries leaving a gap to be addressed in the context of the developing countries. Also, apart from that, while the large manufacturing entities of Tanzania are challenged by unreliable supply of materials in terms of time and quantity, none of the above studies viewed the outcomes of the duration of the buyer—supplier collaboration on the procurement performance in terms of timely delivery of the required quantity of materials. Therefore, it is against the above critical review of other scholarly studies, the

researcher has been motivated to study the influence of the commitment aspects of buyer—supplier collaboration (enthusiasm to invest resources to the collaboration, joint problem solving initiatives, fidelity to the supplier's improvement and the duration of the collaborations) on the procurement performance in terms of delivery time and delivered quantity of materials. This situation prompted on the need to guide to include the following hypotheses in this study.

- H.<sub>o 2.1</sub> Duration of buyer—supplier collaboration is not an antecedent for the procurement performance in terms of delivery time of materials in large manufacturing entities in Tanzania.
- H.<sub>o 2.2</sub> Duration of buyer—supplier collaboration is not an antecedent for the procurement performance in terms of delivered quantity of materials in large manufacturing entities in Tanzania.

It has been revealed that when whenever organizations sort definite investments, the adaptation is interconnected to commitment and satisfaction (Jonsson and Zineldin, 2003). Supportively, it is agreed that commitment enhances stable relationships through encouraging investments that make partners devoted to the relationship (Zhang et al., 2022). In a more specific way, fidelity on enthusiasm to invest resources as a commitment feature of the buyer–supplier collaboration on the procurement performance is argued to be positive (Matevž and Maja, 2013). Conversely, despite being positive, investment of the resources to the relationship is noted as one of the least influencing factors of the performance of the buyer–supplier collaboration (Stuart et al., 2012). Moreover, it has been recommended to study the strength of the investment of resources to the performance of entities (Stuart et al., 2012). Due to the presence of diverse findings between findings and recommendations on the influence of enthusiasm to invest resources to the relationship on the performance, the researcher was motivated to undertake this study focusing on fidelity toward investing resources as a commitment attribute of buyer–supplier collaboration on the procurement performance through the following hypotheses.

- Ho.3.1 Devotion to invest resources in buyer–supplier collaboration is not an antecedent for the procurement performance in terms of delivery time of materials in large manufacturing entities in Tanzania.
- Ho.3.2 Devotion to invest resources in buyer–supplier collaboration is not an antecedent for the procurement performance in terms of delivered quantity of materials in large manufacturing entities in Tanzania

Literature describes buyer–supplier collaboration as a long-lasting attachment. Therefore, there is likely hood of problems to exist and there should be initiatives to solve such problems once they happen (Ahn *et al.*, 2022; Feizabadi and Alibakhshi, 2022). Joint problem-solving initiatives within buyer–supplier collaboration help to solve performance challenges (Shahzad *et al.*, 2020). There is an empirical evidence that the performance of the buyer–supplier collaboration is enhanced provided that problems are resolved jointly by both buyers and suppliers (Matevž and Maja, 2013). However, the same scholar viewed the performance of buyer–supplier collaboration on supplier's perspective while recommending further studies to view the influence of initiatives on joint problem solving of buyer–supplier collaboration on the performance on the buyer's perspective. Therefore, the study conducted viewed the implication of initiatives on joint problem solving in buyer–supplier collaboration on the procurement performance of large manufacturing entities. Interestingly, viewing the procurement performance implies correct response to what is suggested because logistics management positions procurement activity as the buying activity (Lysons and Farrington, 2012).

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Ho.4.1 Joint problem-solving initiatives in buyer–supplier collaboration is not an antecedent for the procurement performance in terms of delivery time of materials in large manufacturing entities in Tanzania.

 $H_{.o4.2}$  Joint problem-solving initiatives in buyer–supplier collaboration is not an antecedent for the procurement performance in terms of delivered quantity of materials in large manufacturing entities in Tanzania.

### 1.3 Methodology

1.3.1 Study location. This study was conducted in large manufacturing entities of Temeke Municipal Council in Tanzania due to the following reasons. About 110 of these manufacturing entities which is equivalent to 54% of all large manufacturing entities in the country are found in this area (URT, 2016). Temeke Municipal Council is Tanzania's utmost industrialized zone (URT, 2016). It is also testified that 68% of all manufacturing entities in Temeke are confronted by unpredictable supply of materials (URT, 2016), as a resultant of the panel statistics of Mboghoina et al. (2014).

1.3.2 Philosophical underpinning. The philosophical foundation for this study is premised on the pragmatic paradigm. This study was guided by pragmatic paradigm. Another locus about worldviews emanates from the pragmatists (Tashakkori and Teddlie, 2021). A pragmatic approach opts to use the best mechanism to seek answers to the research. Pragmatism acknowledges the study problem as a most important aspect to be solved and hence cherishing both the subjective and objective environments while seeking for its solution (Creswell and Clark, 2017). Pragmatic paradigm has been opted because of the adoption of mixed method research in which a combination of both positivism and interpretivism is of no choice. Positivism research paradigm holds that knowledge is based on facts obtained from objective reality and tested numerically and statistically (Creswell and Clark, 2017).

Moreover, due to the need to explore some insights to support quantitative aspects, this study had to use interpretivism (Tashakkori and Teddlie, 2021). Positivism was guided by objective facts quantitatively generated through questionnaires and supplied to procurement and store managers for the purpose of hypothesis testing. Quantitative methods are normally considered appropriate when there is a need for hypothesis and theory testing (Tashakkori and Teddlie, 2021). Therefore, the use of positivism has made it possible to explain the cause–effect collaboration between commitment of buyer–supplier collaboration and the procurement performance and at the same time testing the applied theories through the formulated hypothesis in the context of Tanzania. Buyer–supplier collaboration is argued to be a strategic aspect of the organizations. Moreover, being a strategic aspect has called for the need to explore qualitatively the insights of the supply chain managers regarding the inspiration of buyer–supplier collaboration on the procurement performance of large manufacturing entities in Tanzania using semi-structured in-depth interviews and hence interpretivism.

1.3.3 Sampling procedure. All entities of Tanzania which exhibits features of large manufacturing entities in Tanzania were stared as the targeted population for this scholarly study. Nevertheless, Temeke Municipality was chosen as the sample frame since it is where 54% of all large manufacturing entities in Tanzania are established. Knowing only 55 entities met the criteria; the census method was adopted for complete enumeration of those 55 entities as sample size. Moreover, three of the sampled entities didn't turn up as response part of these study entities creating the response level of 95%. The response level gotten was adequate enough for this study because Mugenda and Mugenda (2012) pronounced that a response level of beyond 70% is excellent. Procurement and store managers from the framed entities were strategically approached due to their appreciated experience and relevant knowledge on

commitment of buyer—supplier collaboration nexus material supply to manufacturing entities. 1 procurement and 1 store manager were picked from each firm totaling a sample size of 104. The unit of analysis of this study was the large manufacturing entities in Tanzania. With respect to the qualitative information, about seven supply chain managers to represent large manufacturing entities were involved as the sample size to inform this study and data was collected using saturation principle. Generally, the sampling units were obtained using purposive sampling and it was due to the fact buyer—supplier collaboration is a strategic practice to be informed purposely and professionally. Supply chain managers were also involved as the key informers considering their role of managing procurement and stores managers.

1.3.4 Data collection procedure. The data that informs this study was obtained through primary sources. Additionally, the quantitative data was generated from the procurement and store managers via a survey approach with the help of structured questionnaires. Qualitative data was gathered from the supply chain managers of the buying entities using semi-structured, in-depth interviews with the help of note-taking to supplement the quantitative information generated from procurement and store managers. The study engaged across-sectional approach, as data were collected only once, considering that there was no need to track temporal changes. For validity purposes, questionnaires were subjected to a pilot using a sample size of 12, which actually met the recommended minimum sample size of 10 as per the rule of thumb suggested by Creswell and Clark (2017). This study focused on collecting quantitative data from the procurement and store managers and qualitative data from the supply chain managers at the same time. The nature of data collection was determined by the study's use of a convergent parallel mixed-method approach. Data collected were analyzed separately and integrated during discussion of the findings based on the convenience of the researcher, as suggested by Glogowska (2011).

1.3.5 Operationalization of variables. Operationalization of variables has enabled it to know the construct variables of the main independent and dependent variables and, further, assigned them numbers through coding to be processed by computer-assisted techniques easily.

Commitment of buyer-supplier collaboration as explanatory variable was further operationalized by the following constructs; enthusiasm to invest resources to the collaboration (investment of fund, capital assets and human resource), initiatives on joint problem solving (cooperative approach in looking for an alternative approach under difficultness), fidelity through suggesting the suppliers on the areas to be improved for the future of the business in buyer-supplier collaboration (discussing on how to improve business) and the duration of the collaboration (time span of the collaborations). Moreover, in this study, the named constructs were hypothesized using five-Point Likert scale. This facilitated to apprehend the expressional opinion in form of ordinal scale regarding how commitment of buyer-supplier collaboration is embraced in the context of large manufacturing entities in Tanzania. It should be noted that five-Point Likert scale was coded in terms of compliance as 1-very poor extent, 2-poor extent, 3-normal extent, 4-high extent and 5-very high extent. The choice of five-point Likert scale is traced back on the previous scholars who analyses the influence of buyer-supplier collaboration on other performance aspects with the key aim of attributes of buyer-supplier collaboration in the other contexts. Other scholars who analyzed buyer-supplier collaboration constructs using ordinal scale with five-point are Chebichii et al. (2021), Kimario and Mwagike (2021) and Karungani (2019).

The outcome variable in this study was procurement performance operationalized using delivery time and delivered quantity of manufacturing materials. Information was generated with the help of binary response. The best coding practice of using used binary data is (0, 1) whereby 0 stand for disapproving response and 1 for approving response. However, by

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default SPSS always acknowledges 1 as the reference category except when ordered otherwise. Nevertheless, in this study, similar numbering was used but coded with a reverse response whereby 0 represented approving response responses while 1 was coded with disapproving response. The essence of using the reverse coding was triggered by the prevailing nature of the study. It was acknowledged in advance that the presence of unsatisfactory performance in the large manufacturing entities in Tanzania would disclose the root causes of such performance level. Therefore, the reference category for the applied logistic model was on the poor procurement performance (disapproving response). The disapproving response code stood for procurement performance indexed with late delivery and delivery with shortages.

1.3.6 Model specification. Quantitative data were analyzed using the SPSS version 23.0 through the Binary Logistic regression model to embrace the cause—effect collaborations that prevails between multiple categorical ordinal variables and one dependent dummy variable as suggested by Fernandes *et al.* (2021). The relationship is as mathematically expressed below;

$$logit(\pi(x)) = In\left(\frac{\pi(x)}{1-\pi(x)}\right) = \beta_0 + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4$$

Whereby,

 $\pi$  = probability that requirements are delivered with idea of shortage/lateness

 $\beta$  = constant (the value at which the fitted line crosses the y-axis)

 $x_1$  = enthusiasm to invest resources to the collaboration

 $x_2$  = joint problem solving initiatives

 $x_3$  = fidelity through suggesting the suppliers on the areas that need future business improvement

 $x_4$  = duration of the relationship

 $\beta_1 \dots \beta_2$  = Beta (slope; change in y for a 1 unit change in x). It measures the strength of predictors.

Correspondingly, in aligning with aim of the study to test cause-effect relationship that exists between commitment of buyer-supplier collaboration and procurement performance, regression was at first place inevitable. Specifically, time and quantity are ordinarily considered as the continuous variables apprehended numerically but this study did not contemplate them that way because their quantification differs across diverse procurement orders and companies in the private manufacturing sector. Therefore, the surveyed firms had no numeric standard on the delivery time and quantity of materials delivered to privately own manufacturing firms. Therefore, the basis for comparison was the stated delivery requirements in the form of time and quantity indicated in the purchase order against the actual delivery details specified in the delivery note (s). Further, the usage of logistic regression to study binary variable is highly convenient and includes procedures for spawning the indispensable dummy variable automatically (Fernandes et al., 2021). According to Tillmanns and Krafft (2021) qualitative response can be used as an alternative to capture variables which can't be captured in numerically for regression analysis. Therefore, the alternative qualitative method of measuring the performance has been chosen as per what has been done by others, like Chebichii et al. (2021), Kimario and Mwagike (2021), Matimbwa and Masue (2019) and Msemwa et al. (2017) who used regression with qualitative features as an alternative scale for evaluating the performance whilst encountering difficulties of obtaining direct numerical measures in form of continuous data. More recently, the financial performance of buyer—supplier relationship has been measured using binary response (Msemwa *et al.*, 2017) contrary to continuous scale which has been commonly used. Therefore, taking into account the same challenge faced by the researcher, this study has followed the common scientific path adopted by the previous scholars.

### 2. Fact findings and discussion

### 2.1 Validity test

The researcher charity Kaiser–Meyer–Olkin (KMO) and Bartlett's Test of sphericity via SPSS 23.0. The outcome mined from SPSS demonstrates that the sample sufficiency index KMO which compares the sizes of the observed correlation coefficients to that of the partial correlation coefficients for the total sum of study variables is 0.59 and it is valid since it is above 0.5. Similarly, the Bartlett's Test of sphericity portrays high degree of accuracy of the measurement model on the reason that the Approx. Chi-Square is 268.7 and its degree of significance level is 0.043 inferring that it is less than 0.05 and hence the adopted measurement of model is a valid for inferential statistical analysis. The validity of the study was enriched through though triangulation where by information related to those asked to the procurement managers quantitatively was triangulated through enquiring qualitative expressive opinion from the supply chain managers using semi-structured in-depth interviews as suggested by Cypress (2017).

### 2.2 Reliability test

For the sake of ensuring the fact findings of this study are dependable, reliability of the independent variables revealed that results on Coefficient of Reliability for enthusiasm to invest resources to the collaboration, joint problem-solving efforts, fidelity to the supplier's improvement and the duration of the collaborations was 0.71, 0.78, 0.80 and 0.70 respectively. Based on the fact that the rule-of-thumb advocates the Cronbach alpha coefficient of reliability is supposed to be above or equal to 0.7 (Purwanto *et al.*, 2020). Cronbach's alpha approach was based on its exceptional ability of checking the internal consistency of the data and hence it is the one that is most often used when data are captured using Likert Scale (Tavakol and Dennick, 2011).

### 2.3 Diagnostic tests of the findings

It is highly recommended to undertake diagnostic tests on the assumptions of analysis model prior to inferential analysis (Garren and Osborne, 2021)). Moreover, the linearity of the predictor variable to the exponents of the Beta Coefficients, multicollinearity and normality (the extent to which data is fairly distributed to zero) were all tested in order to run the logistic regression. The adjusted Nagelkerke R squared was used to check for model fitness and hence came up with the value of 34 and 45% for delivery time and delivered quantity of materials respectively. This signposts that predictor variables of enthusiasm to invest resources to the collaboration, joint problem-solving efforts, fidelity to the supplier's improvement and the duration of the collaborations jointly explain 34 and 45% of the variance in the outcome variable of delivery time and delivered quantity of materials. The canon of thumb advocates that, for the value of pseudo  $R^2$  to be appropriate in illuminating the variance of the predictor variables on the outcome variable, the value ought to be greater or equal to 10% (Falk and Miller, 1992). Consequently, since the pseudo  $R^2$  realized in this study alternated between 34 and 45%, then it is safe to rule out that the model fitted the data. Attentiveness has been made on the interpretation of pseudo  $R^2$  in binary logistic regression due to heteroscedasticity which may distort the meaning linked with the computed value

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(Itaoka, 2012). Besides that, the model fitness Hosmer-Lemeshow Goodness of Fitness was employed where its p value was 0.83 and 0.96 for both models and henceforth accepted as advocated by Nattino et al. (2020).

The multicollinearity test was checked. Preliminarily, correlation of the predictor variables was checked using inter item correlation matrix and the coefficients of correlation ranged between 0.42 and 0.56. Basing on the rule of thumb that when the coefficient of correlation less than 0.8 implies absence of multicollinearity. Therefore, it is safe to rule out that there is no multicollinearity in this data as the coefficient of correlation of predictor variables of commitment were all less than 0.8 as revealed in Table 1.

However, multicollinearity was further checked using Variance Inflation Factor (VIF). The rationale behind choice of VIF is based on its merit of being marked as the confirming technique of checking the presence of multicollinearity. Moreover, the VIF collinearity statistical values reveal absence of multicollinearity as they ranged between 1.33 and 1.63 (see Table 2) and hence less than 10 as suggested by Senaviratna and Cooray (2019).

Garren and Osborne (2021) necessitate all parametric tests to deal with normally distributed data. For the purpose of fulfilling, the assumptions of binary logistic regression, the distribution of data was paid with the consideration of the ability of SPSS to convert its data into log odds. Consequently, normality test was taken care and the value of skewness ranged between -0.17 and 0.15 and the Kurtosis ranged between -0.67 and 0.04. The rule of thumb entails that skewness should be between -2 and 2 (Bryne, 2010). Also, the rule of thumb advocates that the Kurtosis value must be between -7 and 7 (Kim, 2013). Thus, both skewness and kurtosis values remained within the common range. Generally, distribution of data was approximately equal to zero (See Table 3).

2.4 Presentation of the inferential statistical and qualitative findings and its discussions During the interpretation process of the cause effect collaboration of commitment of buversupplier collaborations vs procurement performance was analyzed by binary logistic regression, the b value was regarded significant when it is less than 0.05 implying the confidence interval of the findings of this study is 95% (Di Leo and Sardanelli, 2020). While interpreting logistic regression results, the odds ratio > 1 implies that a unit increase in the

Variable	Resource investment	Joint problem solving	Suggesting improvements	Duration of relationship	
Fidelity on suggesting improvements to the suppliers	0.56	0.42	1.00	0.46	Table 1. Inter item correlation
Duration of the relationship	0.44	0.34	0.46	1.00	matrix of the
Devotion on resource investment	1.00	0.43	0.56	0.44	constructs of commitment of buyer-
Joint problem solving	0.43	1.00	0.42	0.34	supplier relationships

	Collinearity statistics						
Model	Tolerance	VIF	Status at VIF < 10				
Loyalty on suggesting to the suppliers on the areas to be improved Duration of the relationship Devotion on resource investment Joint problem-solving efforts	0.61 0.73 0.62 0.76	1.40 1.62	No multicollinearity No multicollinearity No multicollinearity No multicollinearity	Collinearity st of the constr commitment of supplier relation			

able 2. tatistics tructs of of buyerionships independent variable consequently increases the probability of the outcome and the reverse prevails when the odds ratio < 1 (Field, 2013).

Therefore, those hypotheses with the *p*-value of less than 0.05 and odd ratio greater than one were rejected significantly. The qualitative findings were presented and discussed to support the hypothesis findings and where possible quotations were presented. The qualitative data explored from the supply chain managers were analyzed using thematic procedures suggested by Byrne (2022). After all assumptions of logistic regression assumptions have been lit, the researcher, consequently, progressed with the inferential statistical analysis through actual testing of the proposed hypothesis (Fernandes *et al.*, 2021). The regressions performed were for each variable against the dependent variables as hypothesized. The inferential statistical findings from the binary logistics regressions are as presented in Tables 4 and 5. The information collected quantitatively from procurement and stores managers was triangulated by enquiring related information from the supply chain managers qualitatively.

From the SPSS output as presented in Tables 4 and 5 the findings were scientifically analyzed as per the existing statistical rules. Moreover, whatever has been interpreted quantitatively was supported qualitatively using thematic findings and previous related empirical findings as follows;

Statistics	Fidelity on resource investment	Joint problem solving	Duration of the relationship	Fidelity on suggesting improvements to the suppliers
Skewness	-0.41	0.27	-0.17	0.15
Std. Error of	0.24	0.24	0.24	0.24
Skewness				
Kurtosis	0.04	-0.62	-0.67	-0.45
Std. Error of	0.47	0.47	0.47	0.47
Kurtosis				
Skewness	-1.73	1.11	-0.71	0.63
z value				
Kurtosis	0.08	-1.3	-1.42	-0.98
z value				

Table 3.
Assessment for normality for the constructs of commitment of buyer–supplier collaborations

Table 4.
Binary logistic
regression results of
the influence of
commitment in buyer-
supplier collaboration
on the procurement
performance in terms
of delivery time

Variables in the equation	В	S.E.	Wald	Df	Sig.	Exp (B)
Fidelity on the supplier's future business Duration of the relationship Devotion to invest resources to the relationship Joint problem-solving initiatives Constant	0.73 $1.69$ $-1.02$ $-0.51$ $-2.602$	0.28 0.38 0.40 0.24 0.969	6.32 20.25 6.82 4.53 7.21	1 1 1 1	0.01 0.000 0.09 0.33 0.01	2.06 5.43 0.36 0.60 0.07

Table 5.
Binary logistic regression results of the influence of commitment in buyer—supplier collaborations on the procurement performance in terms of delivery time

Variables in the equation	В	S.E.	Wald	Df	Sig.	Exp (B)
Fidelity on the supplier's future business Duration of the relationship Devotion to invest resources to the relationship Joint problem-solving initiatives Constant	0.58 $1.59$ $-0.84$ $-0.56$ $-2.23$	0.27 0.36 0.37 0.24 0.92	4.43 19.82 5.10 5.43 5.85	1 1 1 1	0.04 0.00 0.05 0.05 0.02	1.78 4.90 0.43 0.57 0.11

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2.4.1 Suggesting to the supplier on the improvements. In Table 4 the hypothesis "Fidelity on investing resources in buyer-supplier collaboration is not an antecedent for the procurement performance in terms of delivery time of materials in large manufacturing entities in Tanzania" was significantly rejected in the model (p = 0.01, Exp (B) = 2.06, at p < 0.05). The odds ratio of 2.06 means that a unit increase in the fidelity of the buyers to develop their suppliers' future business by suggesting the areas that need improvement leads to the more probability of late delivery of materials by 2.06. Similarly, in Table 5, the hypothesis "Fidelity on investing resources in buyer-supplier collaboration is not an antecedent for the procurement performance in terms of delivered quantity of materials in large manufacturing entities in Tanzania" was significantly rejected in the model (p = 0.04, Exp (B) = 1.78, at p < 0.05). The odds ratio of 1.78 means that units increase in fidelity of the buyers to develop their suppliers' future business by suggesting the areas to be improved leads to the more probability of shortage in the delivered quantity of materials by 1.78.

The quantitative findings of this hypothesis have aligned with the qualitative findings which shows lack of the enthusiasm of the buyers to suggest to their suppliers on the areas to be improved is one among of the causes of poor procurement performance. The qualitative findings show that majority of the respondents described that the situation is attributed to lack of long-term focus as buyers do focus shortly on the business short-term impact contrary to what is expected from the collaborative buyer—supplier collaboration. Moreover, all issues of cross-training within buyer—supplier collaboration, insisting on the certification and collaborating on materials improvement have been extremely too low. The respondents argue that they have been struggling much to meet their current business targets set by the firm and hence no enough time to deal with uncertain future of their entities. One of the respondents clarified on the importance of supplier development through sharing of the ideas on what should be improved on the supplier's business he had the following response:

As a buyer I have a lot to do with my current business, my firm is busy with determination of its own future. Therefore, suppliers should also take their own initiatives regarding the future prospect of their business.

One of the key informants from large manufacturing entities had the following to add;

Our business relationships with suppliers are more focused on improving the current business transactions. Very often we do share with suppliers on what should be done so as to improve their business in future.

The findings show that the genesis of the poor performance is based on the way suggestion to suppliers are made. Generally, the findings support the practice from the developed countries where supplier development is very crucial for the performance of business (Coşkun *et al.*, 2022). The findings of this study concur with those of Azadegan *et al.* (2022) who conducted a study in a developed nation and realized the need of the buyers to suggest to their suppliers on future improvements.

2.4.2 Duration. As recorded in Table 4, the hypothesis "Duration of buyer-supplier collaboration is not an antecedent for the procurement performance in terms of delivery time of materials in large manufacturing entities in Tanzania" is rejected significantly in the model (p = 0.000, Exp(B) = 5.430, at p < 0.05). The odds ratio of 5.430 means that a unit increases in duration of the collaboration leads to the more probability of the late delivery of materials by 5.430. On the same trend Table 5, the hypothesis "Duration of buyer-supplier collaboration is not an antecedent for the procurement performance in terms of delivered quantity of materials in large manufacturing entities in Tanzania" is rejected significantly in the model significant in the model (p = 0.000, ExpB = 4.896, at p < 0.05). The odds ratio of 4.896 means that a unit increases in the duration of the collaboration leads to the more probability of shortage in the delivered quantity of materials by 4.896.

Qualitative response reveals duration of the collaboration of most of the buyer–supplier integrations for the procurement performance of the manufacturing entities was not reliable enough to grant realistic commitment. Suppliers stretch privileges to buyers who have been in collaboration for more elongated duration at the expense of those ones who are new in business collaboration while contributing an adverse impact on the procurement performance of large manufacturing entities in terms of delivery time and delivery quantity of materials. The analysis went further by checking on whether different strategies have been board including engaging contract with supplier stipulating the production operation schedules to be used in dispensing orders of their customers. It was revealed that there are unsatisfactory scheduling rules trailed though; they have been at least partly considering Longest Processing Time (LPT) and First Come First Served (FCFS). However, Earliest Due Date (EDD) has never been within the major priorities of the suppliers. Moreover, regardless of what has been agreed between buyers and seller the more the duration of the collaboration, the more the committed collaboration experienced from the supplier. The information obtained from the survey has been supplemented by the supply chain managers and it was once quoted as follows:

Despite of the order processing mechanism stipulated by our companies those buying entities which have been in collaboration for such long are given more special attention at the expense of those whose relationship are more junior leading to delays and backorders during delivery.

The findings of this study are in line with those of related studies from developed countries as supported by findings of Zhang and Morley (2022) who emphasized that the duration of the collaboration is a very important commitment aspect that influences the performance in one way or another.

2.4.3 Fidelity of enthusiasm to invest resources to the buyer–supplier collaboration. Basing on the findings from Table 4 the hypothesis "Fidelity on enthusiasm to invest resources in buyer-supplier collaboration is not an antecedent for the procurement performance in terms of delivery time of materials in large manufacturing entities in Tanzania" significantly failed to be rejected in the model (p = 0.09, Exp (B) = 0.36, at p < 0.05). However, the odd ratio of 0.36 denotes that every unit increase in fidelity on the enthusiasm to invest resources to the collaborations leads to the decrease of the probability of late delivery of materials by 0.36. This means that every unit increase in fidelity on the enthusiasm to invest resources to the buyer–supplier collaboration increases the more probability of materials to be delivered on due time by 1/0.36 (2.778).

Also as can be read from Table 5 the hypothesis "Fidelity on enthusiasm to invest resources in buyer-supplier collaboration is not an antecedent for the procurement performance in terms of delivered quantity of materials in large manufacturing entities in Tanzania" significantly failed to be rejected in the model (p = 0.054, Exp (B) = 0.433, p < 0.05). However, the odd ratio of 0.433 implies that every unit increase in fidelity on enthusiasm to invest resources to the buyer—supplier collaboration leads to the decrease of the probability of shortage in quantity of materials delivered by 0.433. This means that every unit increase in fidelity on the enthusiasm to invest resources to the buyer—supplier collaboration leads to the increase of the more probability of materials to be delivered in the due quantity by 1/0.433 (2.331).

The qualitative findings show that most of the respondents were of the opinion there is presence of enthusiasm to invest their resources to the collaboration. Moreover, when explored more they specified that much of their resources in terms of time, human resources, fund, warehouses and transportation facilities have been part of their commitment to the collaboration. For example, one of the respondents from large manufacturing entities in Temeke was quoted as follows;

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The little of the available success is at least resulting from the enthusiasm of investing resources to our supplier's by providing them with free warehousing facilities at our manufacturing site so as to overcome challenges associated with lead time management. Short of that the situation could be even be more than worse.

In the same vein, another respondent was quoted as follows:

We have been sharing resources including offering some joint training, scarifying our weekend's time for the business arrangements within the buyer-supplier collaboration, exchange of human resources for knowledge transfer just for the sake of ensuring materials are delivered on time and in the required quantity.

The prevailing findings reveal that the existing poor procurement performance might have been attributed by other factors. Therefore, these study findings contradict with those from developed nations where investment of the resources to the buyer—supplier collaboration is paramount. Interestingly, while investment to the relationship is not the case in Tanzania, this finding contradicts with a current study of Ma et al. (2021) from developed country where it sounds very important. It is observed that developed countries are more industrialized compared to the developing ones (Rachel and Summers, 2019) and hence might have more supply volumes and multiple tier supply chain tantalizing for more investment of resources. However, the case as for now in Tanzania as one among the developing nations is not easily noticed given the fact that investments to the collaborations are in a fair practice. However, given the prospect of the Tanzania to be semi-industrialized by 2025 (URT, 2017), lesson from developed nations remains vital.

2.4.4 Joint problem-solving initiatives. With reference to Table 4 the hypothesis "Joint problem solving initiatives in buyer-supplier collaboration is not an antecedent for the procurement performance in terms of delivery time of materials in large manufacturing entities in Tanzania" significantly failed to be rejected in the model (p = 0.330, Exp (B) = 0.60, at p < 0.05). However, the odd ratio of 0.598 implies that for every unit increase of joint problem-solving initiatives in the collaboration leads to the decrease of the probability of late delivery of materials to the large manufacturing entities in Tanzania by 0.598. In an alternative language, this means that every unit increase in initiatives on joint problem solving in the collaboration increases the more probability of materials to be delivered on due time to the large manufacturing entities in Tanzania by 1/0.60 (1.67).

Similarly, in Table 5 the hypothesis "Joint problem solving initiatives in buyer-supplier collaboration is not an antecedent for the procurement performance in terms of delivered quantity of materials in large manufacturing entities in Tanzania significantly failed to be rejected in the model (p = 0.06, Exp (B) = 0.57, at p < 0.05). However, the odd ratio of 0.57 implies that every unit increase in initiatives on joint problem solving in the collaboration leads to the decrease of the probability of shortage in the delivery of materials by 0.572. This means that every unit increase in initiatives on joint problem solving in the collaboration leads to the increase of the more probability of materials to be delivered in the due quantity by 1/0.57 (1.75). Therefore, the null hypothesis that "There is no significant influence on the initiatives on joint problem solving in the collaboration on the procurement performance in terms of delivered quantity of materials to the large manufacturing entities in Tanzania" was failed to be rejected.

Joint problem-solving initiatives have been reported by the majority of the qualitative respondents in large manufacturing entities in Tanzania has no harm to the existing procurement performance in terms of delivery time and quantity of materials. The manufacturing entities have been doing their best to establish alternative means of obtaining their supplies on time and in the required quantity. For the sake of learning and knowledge transfer, respondents were asked to tell secrete behind the success of joint problem solving within the collaboration. Moreover, it was responded all that is because of the establishment

of team works between the two sides and networking in addressing problems once happened. One among of the respondent when asked on how they jointly combine their efforts to solve problem once happens responded as follows:

Once our suppliers fail to deliver, we do establish ad hoc teams while involving in suggesting on alternative suppliers to deliver at that time without disrupting the flow of the inventory in terms of time and quantity.

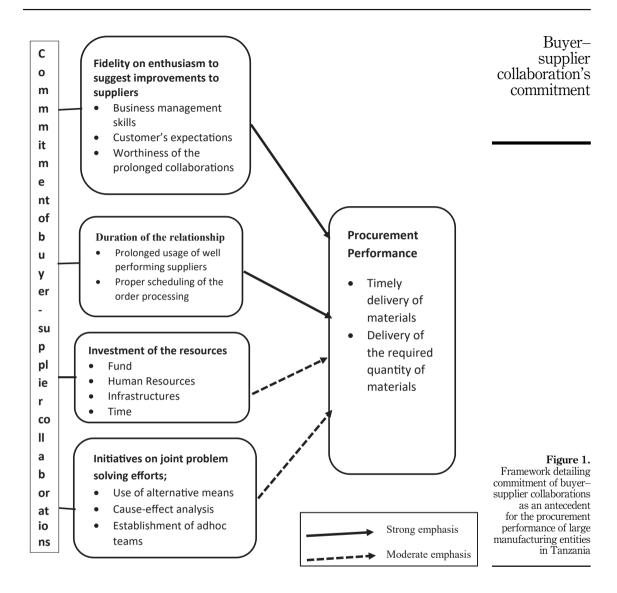
However, the tested null hypothesis findings reveal that there is no relationship between the existing unsatisfactory performance and the commitment of solving problems jointly within buyer-supplier collaboration in Tanzania hence implying that it is well practiced. This is to say the little progress of Tanzanian manufacturing firms is stemmed from the continuing efforts of the existing buyer—supplier collaboration in solving the problems jointly. Therefore, as a yardstick of the performance, joint problem solving is supported by studies from developed countries for enhancing performance (Ahn et al., 2022; Feizabadi and Alibakhshi, 2022).

Therefore, the outcome of the quantitative analysis on the commitment of buyer—supplier collaboration as an antecedent for the procurement performance of large manufacturing entities in Tanzania using hypotheses tested four variables with respect to the procurement performance in the context of large manufacturing firms in Tanzania. The tested variables were fidelity in terms of the enthusiasm to invest resources to the collaboration, joint problemsolving efforts, fidelity of the buyers to develop their suppliers' future business through suggesting areas that need improvement and duration of the collaboration. However, the two variables; that is, fidelity of the buyers to develop their suppliers' future business by suggesting the areas that need improvement and the duration of the collaboration are the one that account to the procurement performance of the collaboration in the large manufacturing entities of Tanzania. Interestingly, the quantitative findings were supported by qualitative findings and further reinforced by the previous related empirical findings from the other contexts. Therefore, basing on the findings the below Figure 1 is the framework which can be adopted to rescue the procurement performance of large manufacturing entities in Tanzania in the light of commitment of buyer-supplier collaboration.

# 3. Conclusion, implication and limitations of the study findings

### 3.1 Conclusion

Current study findings reveal the indispensable position of commitment in the buyersupplier collaboration as an antecedent on the procurement performance in large manufacturing entities of Tanzania, Manacled on Transaction Cost Economics and Resource Dependency Theories, the study revealed the core cause of procurement performance of manufacturing entities in Tanzania in the light of the existing commitment resource advantages of buyer-supplier collaboration where fidelity of the buyers to develop their suppliers' future business by suggesting the areas that need improvement and the duration of the collaboration are of a high stake. Therefore, entities are likely to experience underprivileged procurement performance underlined with delayed delivery and shortage materials in situations where these two parameters are not well taken care. Other facets that were tested in the model include fidelity in terms of the enthusiasm to invest resources to the collaboration and joint problem-solving efforts, all of which were testified to be safely and successfully practiced to a very reasonable extent in the surveyed entities. It is further acknowledged that fidelity in terms of the enthusiasm to invest resources to the collaboration and joint problem solving struggles are not significant because their p-values are greater than 0.05 denoting the degree of accuracy of the proposed null hypothesis is less than 95%. However, in order for commitment in the buyer-supplier collaboration to vintage appropriate



procurement performance, those facets should not be disregarded from the developed framework as their removal shall inevitably produce other problems considering the confidence interval was not perfect by 100%.

## 3.2 Implications of the study findings

Practically, large manufacturing entities in Tanzania are fortified to adopt the developed framework given the eagerness of the country's transformation into a highly industrialized one with a contribution of about 40% by 2025. Generally, commitment in the buyer–supplier integrations in terms of the fidelity of the buyers to develop their suppliers' future business by suggesting the areas that need improvement and the duration of the collaboration should be

strongly stressed, while moderate weight should be placed on fidelity in terms of the enthusiasm to invest resources in the collaboration and joint problem solving efforts in the integrations by adopting the framework illustrated in Figure 1. The developed framework will be worthwhile not only to Tanzanian manufacturing companies but also to those in other developing countries. Tanzanian manufacturing entities are highly opined to act honestly toward their suppliers by suggesting business enhancements to harness the pluses of a long-term strategic relationship. Tanzanian manufacturing should maintain records of those suppliers who are highly *reliable*, and they should further extend their contracts to hitch the potentiality of prolonged collaborations. On the same weight, the use of the EDD scheduling principle should be encouraged to rescue junior business collaborations. Also, for the sake of society at large, the ministry responsible for trade and investment in Tanzania should offer capacity building to the manufacturing entities on the basis of supplier development.

TCET and RDT have been used to pronounce how the commitment of buyer–supplier collaboration serves as an antecedent for procurement performance in the local context of developing countries, including Tanzania. The upshots on how TCET and RDT can be used jointly to describe performance concerns in non-financial metrics such as delivery time and delivered quantity of materials through the commitment of buyer–supplier collaboration are revealed.

## 3.3 Limitations of the study findings

This study disclosed the cause—effect relationship that exists between the commitment to buyer—supplier collaboration and the procurement performance of large manufacturing entities in Tanzania. Furthermore, now that it has been established that there is a relationship between the two, future research should focus on the moderating effect of third-party logistics on the relationship of the buyers and suppliers characterized by commitment.

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