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Communication and quality service delivery in Uganda's local government: the mediating influence of total quality management

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The study aimed at understanding the role of total quality management (TQM) as a mediator between communication and quality service delivery (QSD) in Uganda's local government (LGs). Data were collected using a cross-sectional research design from 212 LGs whose heads of department and section heads formed the unit of inquiry. The paper utilises the Med Graph program, Sobel's *z*-test and the Kenny and Baron procedure to test the role of TQM as a mediator between communication and QSD. The findings revealed that TQM is a significant mediator between communication and QSD, and enhances the relationship by 24.3%. In addition, a partial type of mediation was established. Overall, the results show that communication predicts QSD directly and also indirectly via TQM. The study was cross-sectional with its inherent flaws. Future studies should consider mediation studies from a longitudinal perspective. In addition, the data were collected only from Uganda's LGs. Therefore, the findings may be limited to the sample studied and negate the possibility of generalisation. In terms of practical implications, LG managers should consider TQM as stimuli for communication to ensure QSD. The paper contributes to the service literature by extending the role of communication for QSD within the context of LGs whose empirical stance is still scanty. In addition, it contributes to literature on TQM by highlighting its mediatory role for QSD in LGs.

Keywords: communication, local government, quality service delivery, total quality management

JEL classification: L15, O30, 038, O55

Introduction

Meeting client preferences and needs demand that local governments (LGs) rise to a high level of service quality (Sudhahar and Selvam 2008). One way to achieve this is through communication (Harrington et al. 2012). Although different approaches are used in the examination of communication construct, communication has been more recently considered from an organisational perspective as a pattern of information flow and exchange within the organisation (West and Turner 2007). Abundant literature suggests that public sector organisations with better communication systems have a better opportunity to deliver quality services (Nardi 2005; Hughes and Walters 2007; Garling 2008; Canary 2011; Jenkins et al. 2011). Harrington et al. (2012) affirm that communication is one of the most important organisations' strategic weapons that stimulate quality service delivery (QSD) as it strengthens employee relationships, permits conveyance of critical service delivery ideas to management, and eliminates fear that would have limited employee involvement in the QSD process. Local governments thus should find ways to strengthen their communication systems in order to cope with the challenges of QSD. However, few empirical studies have examined the role of communication on QSD within the realm of LGs (Musenze et al. 2013).

The increasing demand for quality by the public, partly as a consequence of public sector reforms of 1980s, and the dire necessity by the government to restitute political primacy (Robinson 2003; Talbot et al. 2003), require that LGs reform their communication systems (Canary 2011; Musenze et al. 2013), and embrace total quality management (TQM) culture (Kluse 2009), if they are to rise to the challenges of QSD. An empirical study by Kluse (2009) earmarked TQM as a thriving phenomenon in both state and LGs' institutions. Similarly, studies by Jenkins et al. (2011) and Canary (2011) revealed a positive and significant link between communication and QSD. In this context, communication is portrayed to involve communication practice and communication satisfaction. The former illustrates a pattern of interaction existent in any social system and comprises both formal and informal patterns (Berger 2008; Greenberg and Baron 2010), while the latter describes the individual's overall satisfaction with various aspects of communication within the organisation (Downs and Hazen 1977; Mueller and Lee 2002; Ooi et al. 2012). Empirical evidence further indicates that QSD in Uganda's LGs is still elusive (Ministry of Public Service 2008). This finding is consistent with the earlier observation of the World Bank (2004) that established poor-quality services by many low

developing economies. The Ministry of Public Service (2008) report illustrated that the services that LGs deliver to its clients are poor and still in variance with clients' expectations. It further faulted most LGs for their failure to assess and factor client needs within their service delivery framework. This finding contrasts adversely with the stakeholder theory (Freeman 1984), which attempts to explain the relationship between organisations, people and the group. This theory takes a broader view of human behaviour to incorporate interests of all agents, including clients, with stakes within the organisation (Ayuso et al. 2007; Shao 2010).

In view of the above, communication is considered a unique attribute to improve QSD (Jones 2006; Berger 2008; Greenberger and Baron 2011). This is because it strengthens employee relationships and enhances their performance potential essential in QSD. Studies by Bharati and Berg (2003), Kayis et al. (2003) and Mjema et al. (2005) point to the immense role of communication in TQM. It enhances quality awareness, reduces quality costs, speeds up transmission of quality data among participating actors, and consequently spurs QSD. Similarly, Harris and Nelson (2008) establish the role of communication in TQM initiatives, which consequently enhance QSD. According to the 1995 Ugandan Constitution, and the *Local Government Act (CAP, 243)* (Government of Uganda 1997), Uganda's LG structure is multi-layered, ranging from Local Council I to Local Council V. This five-tier structure requires effective communication to broadly facilitate LGs to deliver quality services (Kettl 2007).

Although the relationship between communication and QSD has received considerable research attention (Nardi 2005; Canary 2011; Greenberger and Baron 2011), empirical evidence to show that TQM mediates the relationship between communication and QSD within the realm of Uganda's LGs is elusive. The systems theory (Sirgy 1984) offers a valuable conceptual framework for understanding the mechanisms through which communication is linked to QSD through a continuous improvement philosophy called TQM. This theory attempts to facilitate the generalisation of behavioural principles across a wide range of organisations (Sirgy 1984). The theory suggests that an organisation, such as a service firm (LG), consists of an arrangement of smaller subsystems such as departments and acts within a larger system – the environment. Two of the fundamental themes of systems theory are the interaction of subunits within a system and the interaction of the system with its environment (Kast and Rosenzweig 1972). Viewed from a systems lens, QSD is a service encounter between service provider and recipient (Surpenant and Solomon 1994), and requires that LGs regularly consult their clients to determine their needs if they are to be met. This process, therefore, demands coordination and regular communication among interacting parties in service delivery system. Moreover, the systems perspective to QSD demands a philosophy of continuous improvement characterised by team work among employees and departments (TQM). Still, following the systems framework, inputs such as communication, processes such as TQM, and outputs (QSD) play an important role in the successful operation of organisations (LGs). This is because of the uniqueness of many services that LGs offer. Therefore, a measure of overall service quality should include judgments of all dimensions of the service: inputs, processes and outputs.

This study therefore, contributes to this area by investigating the relationship between communication and QSD through the mediating role of TQM. This study contributes to literature in a number of ways: first, it is important when viewed in the context of heightened prospect and citizens expectations, due to the New Public Management wave where pressures to meet citizen preferences though a requirement is a challenging task and, accordingly, require several forces to work collectively in order to realise a unique purpose. For this reason, this study seeks to establish the intra-relations of communication, TQM and QSD, and to estimate their distinct effects on QSD. Second, it contributes to literature on TQM by highlighting its mediating role for QSD. Both in academic and professional circles, we demonstrate that communication forms an integral part in organisations (Nardi 2005; Canary 2011). An overview of TQM literature indicates great consensus among TQM scholars about the importance of TQM in the achievement of QSD (Kluse 2009). Therefore, besides organisations becoming more focused on their communication systems, they have equally been advised to be more quality focused (Kluse 2009). The examination of TQM from a communication perspective offers an insight for the development of managerial practices necessary for determining QSD (Mjema et al. 2005). The knowledge about the dominance and supremacy of the two concepts of communication and TQM necessitates the examination of the relationship between the two equally. Though arguments in literature support a positive relationship between communication and QSD, a number of empirical gaps still exist. The empirical stance of this link is missing and the mediating influence of TQM in securing strategic organisation fit into its environment in respect to QSD is still not adequately examined. Besides, the emergency of TQM philosophy has been an essential development in management practice with limited consideration in respect to communication and QSD. From this point of view, the study recognises arguments by Johansson (2007), which revealed that organisations with proper communication structures often achieve positive outcomes (QSD) with the aid of TQM programs.

Total quality management has been applauded and implemented as a management approach that permits organisations to become more client and quality focused (Singh and Smith 2004; Kluse 2009). In light of an

extensive literature review on communication, TQM and QSD, it is apparent that the three concepts are intertwined and closely connected. Accordingly, communication is an important approach that organisations execute in order to achieve QSD. Communication makes this goal realistic to the LGs by the mediating role of TQM. This paper, therefore, explores the possibility of using communication with the mediating influence of TQM as a shared contribution to QSD within the realm of Uganda's LGs. The remainder of this paper considers a literature review, study methodology, results, discussion of findings, theoretical and practical implications, study limitation and suggestions for future research.

Literature review and hypotheses development

Service quality

Based on Parasuraman et al. (1988), service quality denotes overall judgement of a service to ascertain whether it meets client satisfaction. Zeithmal et al. (1990) conceptualise service quality as an existing difference between customer expectation and actually what is achieved. Based on this, in instances where client expectation exceeds service performance, a feeling of dissatisfaction with perceived quality arises (Parasuraman et al. 1985; Lewis and Mitchell 1990). A more controversial definition in service quality literature has been given by Garvin (1998), who perceives quality to imply excellence. This definition is limited given the fact that it considers quality from the organisation's angle and ignores the clients' side, as organisations strive to secure excellence, the clients' needs notwithstanding (Yong and Wilkinson 2002). Given this background, there are basically two contrasting paradigms in service quality literature: *expectation–disconfirmation* paradigm and the *performance* paradigm. The former avers that perceived service quality results from comparison between expectation and actual performance (Oliver 1980), whereas the latter perceives customer expectation as irrelevant and only considers performance as essential. The two contrasting paradigms produced two different frameworks for service quality measurement, namely SERVQUAL (Parasuraman et al. 1985; Zeithmal et al. 1988) and SERVPERF (Cronin and Taylor 1992).

Communication, total quality management and quality service delivery

Communication has been pointed out as a unique and important feature for all organisations (Berger 2008; Greenberg and Baron 2010; Nazer et al. 2011). Communication is described to mean a pattern of information flow within the organisation. West and Turner (2007) perceive communication to illustrate a social process that entails information exchange within an organisation. In this study, communication is conceptualised to involve communication practice and communication satisfaction. The former reflects a pattern of overall interaction prevalent in any social system and comprises both formal and informal patterns (Berger 2008; Greenberg and Baron 2011; Nader et al. 2011). The latter describes the individual's overall satisfaction with information flow or aspects of communication within the organisation (Mueller and Lee 2002; Ooi et al. 2012). Communication aspects have been identified by Mueller and Lee (2002) and Downs and Hazen (1977) to involve media quality, corporate communication, communication climate, supervisory communication, personal feedback, subordinate communication and horizontal communication, among others.

Literature demonstrates the considerable role of communication in TQM initiatives. Communication can enhance TQM outcomes (Harris and Nelson 2008). In this regard, organisations with flexible structures fit well with TQM practices such as employee involvement, employee empowerment, and customer focus, among others (D'Aprix 2006; Harris and Nelson 2008). This later translates into QSD. A study by Johansson (2007) indicated that organisations with proper communication structures often achieve positive outcomes, associated with TQM programmes, such as increased customer satisfaction and reduced labour costs, which ultimately have the potential to improve QSD. Similarly, a study by Faisal (2010) revealed a positive link between communication and TQM implementation, hence quality performance.

According to Goldratt (1988), the theory of constraints (TOC) is a systems methodology developed to help people and organisations think about their problems, develop breakthrough solutions, and execute those solutions successfully. The TOC can be assimilated into TQM implementation as a mechanism to assist TQM and to enhance its functioning. In TQM thinking, it focuses on how to successfully achieve the philosophy of continuous improvements and change within the organisations. According to Goldratt (1988), when dealing with constraints to TQM implementation, managers are required to make three generic decisions: decide what to change, what to change to, and finally how to cause change that is characteristic of TQM philosophy. Communication has been found to be important especially in strengthening relationships, building trust, and minimising fear and resistance to change (Lewis 2006), which in turn facilitate TQM implementation (Oakland 2004). Therefore, we hypothesise that:

H_1: Communication and total quality management are positively related in local governments

Communication has been established as a significant predictor of QSD in organisations (Berger 2008; Cheney 2011; Greenberg and Baron 2011; Nader et al. 2011). According to Jones (2006) and Nazer et al. (2010), formal established channels of communication depict an organisation's legitimate authority through which instructions

and orders are issued to subordinates from time to time. It is important to note that these orders and instructions secure compliance within a service delivery framework, hence permitting QSD. Similarly, informal communication often strengthens employee relationships, fosters unity and eliminates obstacles to performance, consequently permitting QSD (Jones 2006). Conversely, overall satisfaction with information flow within the organisation improves worker's morale and commitment, thus leading to better organisational performance (QSD) in the LGs context.

Studies have demonstrated a positive link between communication and QSD (Semler 2003; Hughes and Walters 2007; Garling 2008; Musenze et al. 2013). In the services literature, communication is considered to play a vital role in the QSD process. The gap theory of service quality suggests that ignorance concerning customers' expectations is one of the principal causes of failure to meet and satisfy these expectations (Zeithmal et al. 1990). This ignorance of client expectations is possibly due to a lack of direct interaction, and communication between the organisation employees and the customers. The reason for this is that, through sufficient communication, organisations are able to reach out to the clients, acquaint themselves with their needs and, finally, incorporate them in service delivery plans geared towards meeting them. Therefore, we formulate:

H_2: Communication is positively linked to quality service delivery in local governments

The direct and indirect effects of TQM on QSD are also evident in literature (Kluse 2009; Musenze et al., 2013). Total quality management is not only restricted to product quality enhancement, but also covers a broader facet of quality in the service sector. Previous empirical studies concerning the association between TQM and QSD have revealed significant and positive results (Flynn et al. 1994; Ahire et al. 1996). The main focus of TQM as recommended by earlier TQM scholars such as Ishikawa (1972), Crosby (1979), Deming (1982) and Juran (1988) is to enhance overall quality, including process quality and service quality (Litton 2001). Successful TQM execution is likely to offer benefits crucial in enhancing quality and lowering costs of poor quality such as rework, late deliveries, replacement and resource wastage (Antony et al. 2002). Still, Brah et al. (2002) supported the suggestion that TQM execution is linked with quality delivery. Similarly, Kluse (2009) found evidence linking TQM to QSD in the public sector.

Cook and Verma (2002) established from the study of perceptions of bank employees that quality systems (TQM) affect QSD. Effective TQM processes can generate distinct progress and enhancement in both product and service quality, which consequently results in improved client satisfaction, hence QSD (Litton 2001; Kluse 2009). By cultivating a motivated, customer-leaning management values and practice, internal service quality levels will be more favourable. It was also found that employees in possession of organisational knowledge and skills are essential in providing service quality where high levels of employee confidence and pleasure were established to be dependent on the empowerment and employee participation (Prajogo and Sohal 2006). With TQM's main purpose being the establishment of a management system and corporate culture to guarantee client satisfaction, through incessant and constant improvement of organisational processes that result in QSD (Waldman 1994), it may be argued that quality systems such as TQM could also lead to better service quality (Cook and Verma 2002).

However, as to whether TQM mediates the relationship between communication and QSD cannot be inferred firmly, especially considering the fact that previous studies have dwelt more on the role of communication on QSD (Jenkins et al. 2011; Musenze et al. 2013). The mediating role of TQM on the relationship between communication and QSD in Uganda's LGs has not been studied, especially in the context of LGs and this is what stimulates this study. Hence, it is hypothesised that:

H_3: Total quality management positively mediates the relationship between communication and quality service delivery in local governments

Considering the above literature review, we suggest the underlying model (Figure 1) to guide this study.

Study design and methodology

A cross-sectional research design was employed to test the hypotheses. A total sample of 302 LGs was drawn from a total population of 1 488 LGs, which are registered members of the Uganda Local Government Association, as guided by Krejcie and Morgan (1970) for determining sample size. As Uganda's LGs are layered along a continuum of five levels (District Councils, Municipal Councils, Municipal Division Councils, Town Councils and Sub-County Councils), we employed a stratified proportionate sampling procedure to draw 23 District Councils, four Municipal Councils, 13 Town Councils, 35 Municipal Division Councils and 227 Sub-County Councils. Thereafter, using a simple random sampling technique, we provided five bowls, each marked in accordance with the stratum's name. We then wrote all LGs' names on pieces of paper and inserted them in those respective bowls, as per the stratum's name, from which we drew simple random samples without replacement until we arrived at the number of 302. The heads of department and section heads formed the unit of inquiry. This study accepted a minimum of three respondents per LG. The sample size of 302 LGs and the actual response rate of 212 are judged convincing enough, since it is consistent with Bailey (1994), who observed that a sample of 100 and above is sufficient, and Roscoe (1975),

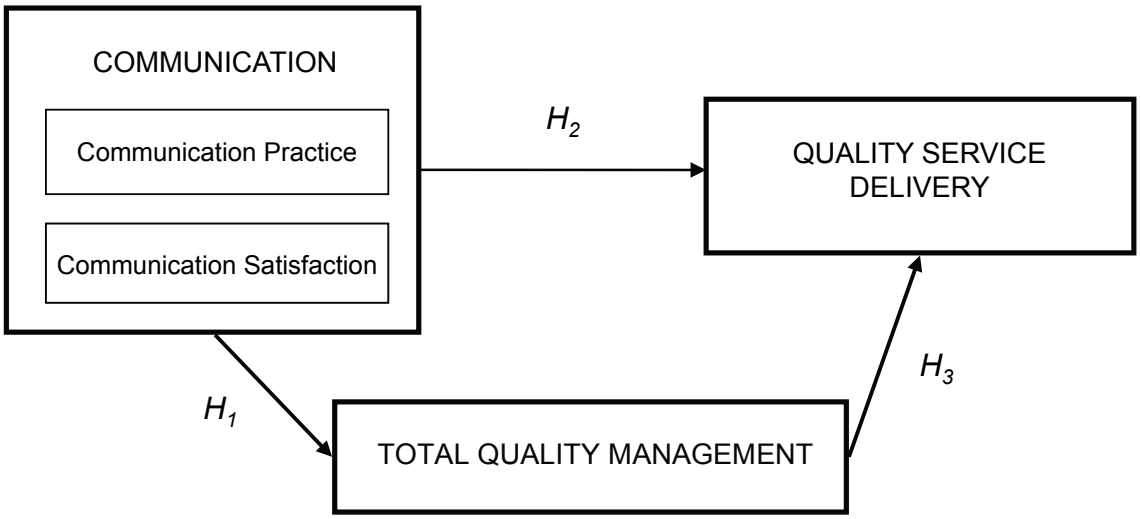

Figure 1: Research model. Sources: Downs and Hazen (1977), Parasuraman et al. (1988), Flynn et al. (1994), Black and Porter (1995), Ahire et al. (1996) and Phillip and Hazlet (1997)

rule of the thumb, indicating that a sample size between 30 and 500 is adequate for any study. The sample size for this study fulfils this minimum requirement. Given that clients are in the best position to judge on issues of quality (Fitzsimmons and Fitzsimmons 2006), the QSD part of the tool was completed by a total of 1 365 respondents, enlisted through a convenient sampling technique. Clients leaving public service delivery offices were intercepted, talked to, and requested to participate in the study by completing the tool. All their responses were aggregated to the unit of analysis level (LG).

Measures and instrument development

Communication

The scale for measuring communication consisted of two dimensions, namely communication practice and communication satisfaction, but these were later computed to form one index score of communication, which was used in the subsequent analysis. To measure communication practices, we relied on a self-generated measurement scale based on thorough review of the literature. Consistent with this review, a set of items for the two communication dimensions of formal and informal communication practice was generated. This measurement scale was later submitted to 10 experts who comprised both LG practioners and academicians for validation, who found it fit for the study, with a content validity index of **0**.82, which was above the suggested minimum of 0.70 (Nunnally 1978). A sample of the question items reads, '... superiors often inform us of new happening in the organisation through written memos (Formal)' and '... the content of Local Government communication we engage in is rich (Informal)'. Items were anchored on a six-point Likert-like scale (1–6) ranging from Strongly Disagree to Strongly Agree. For communication satisfaction, the scale of Downs and Hazen (1977) to assess employee satisfaction with overall information flow within the organisation was used but modified to suit the present study. The modified questionnaire had 23 items. 'My supervisor is open to ideas' is an example of the items. While the scale assesses eight critical communication factors, we adopted only five (media quality, corporate communication, communication climate, supervisory communication and personal feedback) that were more tied to the study.

Total quality management

An assessment of previous empirical studies on TQM allude that scholars have defined measures in various ways, though they complement each other (Prajogo and Sohal 2006). In order to tap the domain of TQM in organisations, the scales previously developed by Flynn et al. (1994), Ahire et al. (1996) and Black and Porter (1995) were adopted, but modified to suit the present study. The dimensions included in the study were leadership, continuous improvement, process management, process design, employee involvement and customer focus. Items for this scale were slightly modified to suit this study. A sample of items reads, 'Local government managers are change drivers; Employees are directly involved in quality related activities'.

Quality service delivery

This was measured using the works of Parasuraman et al. (1988) and the pivot–core–periphery model developed by Phillip and Hazlet (1997). In the current study, QSD dimensions included responsiveness, empathy, reliability, assurance and tangibles adopted from the Parasuraman et al. (1988) framework, and deliverables derived from Phillip and Hazlet (1997). A sample of the question items

reads, 'prompt services are delivered to clients; the cost of service delivery in this local government is reasonable'. All items were anchored on a six-point Likert-like scale (1–6) ranging from Strongly Disagree to Strongly Agree.

Validity and reliability

The instrument was validated by a panel of both academic experts and LG practitioners comprising 10 individuals. All study variables recorded a content validity index greater than 0.80, which is well above the recommended minimum of 0.70 (Nunnally 1978). In addition, we also tested for the scale reliability using the internal consistence approach. The item-total reliability, which depicts a measure of internal consistence, and the Cronbach alpha coefficient of the study variables were computed. The values of the Cronbach alpha coefficient, which is an indicator of reliable scales (Field 2006), for all study variables were greater than 0.84**,** in excess of the recommended minimum of 0.70 (Nunnally 1978) (see Table 1).

In order to minimise the likely existence of measurement errors in the data collection process, we tested for common methods bias (CMB) (Podsakoff et al. 2003; Spector 2006). Cognisant of the problems of CMB, which is characteristic of self reports such as this, and its adverse effects on this study, we adopted strategies recommended by Podsakoff et al. (2003) to reduce and manage CMB. There are basically two recommended techniques: procedural and statistical techniques. Guided by the procedural technique, data were collected from different groups (heads of department and section heads). This multi-ratter procedure reduced the potential effects of CMB and common methods variance. Further, as a procedural remedy, we ensured clarity of the scale items at the stage of instrument development. We also used a psychological separation procedure to make exogenous constructs appear dissimilar to the measurement of endogenous variable. In this regard, items were clustered under different sections, with the aim of making them unrelated to the respondents. Finally, we also embraced the traditional Harman's single factor test to assess for CMB. The test established limited methods variance, because the test extracted 13 factors (eigenvalues > 1) explaining 65% of total variance and the first factor did not account for the majority of the variance (Podsakoff et al. 2003; Spector 2006).

Data were checked and cleaned to ascertain their completeness. Through frequency inspection and missing value analysis, the results were insignificant, indicating that missing values were missing completely at random. We then proceeded to replace them using a linear interpolation method, owing to its capability to link data points while preserving the data structure (Dodge 2006). Finally, we screened our data to determine its conformity to parametric tests' assumptions. We tested for the assumption of normality, equality of variance, linearity and multicolinearity. Specifically, multicolinearity was tested using variance inflation factor (VIF) and tolerance statistics. These tests produced VIFs for all study variables below 1.9 and tolerance statistics above 0.8 for all study variables. These results portray limited threat of multicolinearity, as achieved values were below the minimum cut off of VIF < 5, tolerance values > 0.2 and condition index < 30 (Field 2006).

Table 1: Reliability statistics (source: primary data)

Variable	Cronbach alpha coefficient (α)
Communication	0.85
Total quality management	0.91
Quality service delivery	0.94

Results

Correlation and regression analyses

This study employed Pearson's product moment correlation coefficient and regression analysis to determine the relationships between the study variables. The results of the analyses are displayed in Tables 2–4.

Zero-order correlation analysis results presented in Table 2 indicate that the association between communication and TQM is positive, moderately strong and significant ($r = 0.475$; $p < 0.01$). An assessment of the model results displayed in Table 4 indicate that model 1 is not significant ($R^2 = 0.001$; $p > 0.05$). Since demographic data have previously been used as control variables in research (Oldham and Cummings 1996), in this model we controlled for LG type and LG tenure. The findings revealed that both LG type and tenure contribute only 0.1% to the total variation in TQM (22.7%), implying that their contribution to TQM in LGs is statistically insignificant. However, results of the hierarchical multiple regression analysis, displayed in Table 4, reveal that 21.6% of the total variance in TQM is explained by communication ($R^2 = 0.216$; $p < 0.01$). The positive and statistical significance between communication and TQM ($r = 0.475$; $p < 0.01$), supported by the regression results displayed in Table IV ($R^2 = 0.216$; $p < 0.01$), led to acceptance of hypothesis H_1.

Similarly, correlation analysis results presented in Table 2 show a positive and significant relationship between communication and QSD ($r = 0.531$; $p < 0.01$). This finding is strengthened by hierarchical regression results, shown in Table 3, for model 2, which indicated

Table 2: Zero-order correlation between communication, total quality management and quality service delivery. $N = 212$

Variable	1	2	3
Communication	1.00		
Total quality management	0.475**	1.00	
Quality service delivery	0.531**	0.463**	1.00

** $p < 0.01$ (two-tailed)

Table 3: Hierarchical regression of communication and total quality management on quality service delivery. LG = Local government. $N = 212$

Model	Variable	Unstandardised		β	Model F	R^2	Adjusted R^2	ΔR^2
		B	SE					
Model 1	Intercept (constant)	−0.062	0.097		0.185	0.002	−0.008	0.002
	LG type	0.004	0.011	0.022				
	LG tenure	0.017	0.033	0.037				
Model 2	Intercept (constant)	−0.035	0.083		27.492**	0.284	0.274	0.282
	LG type	0.007	0.010	0.043				
	LG tenure	0.001	0.028	0.001				
	Communication	0.393	0.043	0.533				
Model 3	Intercept (constant)	−0.049	0.080		26.863**	0.329	0.329	0.058
	LG type	0.008	0.009	0.048				
	LG tenure	0.005	0.027	0.010				
	Communication	0.297	0.047	0.402				
	Total quality management	0.299	0.070	0.273				

**$p < 0.01$

Table 4: Results of ordinary least squares regression of communication on total quality management. LG = Local government. $N = 212$

Model	Variable	Unstandardised		Standardised coefficient β	Model F	R^2	Adjusted R^2	ΔR^2
		B	SE					
Model 1	Intercept (constant)	0.024	0.089		0.136	0.001	−0.008	0.001
	LG type	−0.005	0.010	−0.036				
	LG tenure	−0.001	0.030	−0.001				
Model 2	Intercept (constant)	0.046	0.078		20.403**	0.227	0.216	0.226
	LG type	−0.003	0.009	−0.018				
	LG tenure	−0.014	0.026	0.034				
	Communication	0.321	0.041	0.477				

** $p < 0.01$

that 28.2% of the total variance in QSD was explained by communication ($R^2 = 0.282$; $p < 0.01$). Based on this, we can posit that communication practices and satisfaction, besides other factors, can account for particular changes in the level of quality that LGs deliver; hence, hypothesis H_2 is upheld.

Testing for mediation

In order for mediation to take place, the exogenous variable must account for a specific variance in the mediation construct, which is also thought to explain for the unique variance in the endogenous variable (Baron and Kenny 1986). The role of the mediator variable, therefore, is to enhance the predictive power of the independent variable on the endogenous variable. Mediation tests were therefore computed to ascertain whether the conditions suggested by Baron and Kenny (1986) are fulfilled. First, there must be a relationship to be mediated, that is between the independent and dependent variables. Second, the independent variable must sufficiently and significantly explain for the variations in the mediator. Third, the mediator should account for a specific and significant variation in the endogenous variable. Finally, the supreme effect of the independent variable must decline on introduction of the mediator variable during regression analysis. Based on this, in the instant case, mediation tests were computed to determine whether the conditions suggested by Baron and Kenny (1986) are satisfied. The Med Graph Program, a customised version of Sobel Test, was used to generate the Sobel z-value and the significance of mediation effect of TQM on the relationship between communication and QSD in Uganda's LGs. Table 5 and Figure 2 reveal the results of the above analysis.

From Table 5 and Figure 2, it is clear that the conditions for mediation as suggested by Baron and

Table 5: Mediating effect of total quality management on communication and quality service delivery. $N = 212$

Exogenous variable	TQM			Quality service delivery (dependent variable)					
	Model 1			Model 2			Model 3		
	B	SE	β	B	SE	β	B	SE	β
Constant	0.005	0.016		−0.013	0.017		−0.013	0.016	
Communication	0.320	0.041	0.475**	0.392	0.043	0.531**	0.296	0.047	0.402**
Total quality management							0.298	0.070	0.272**

**$P < 0.1$, *$P < 0.05$; Type of mediation: partial; Sobel z-value: 3.73734 (sig. 0.000186); Direct: 0.402; Indirect: 0.129

Figure 2: Mediation of total quality management

Kenny (1986) are satisfied. First, the independent variable (communication) sufficiently explains a significant change in the mediating variable (TQM) in model 1 ($\beta = 0.475$, $p < 0.01$). Second, there exists a significant relationship between communication and QSD to be mediated ($\beta = 0.531$, $p < 0.01$) as indicated in model 2. Third, the mediating variable (TQM) accounts for a considerable proportion of the total variance in the dependent variable (QSD) in regression model 3 ($\beta = 0.272$; $p < 0.01$), considering both coordination and TQM as independent variables. Finally, there is a reduction in the total effect of communication on QSD in regression model 3 (from $\beta = 0.531$, $p < 0.01$; to $\beta = 0.402$, $p < 0.01$) compared with that of regression model 2 ($\beta = 0.531$, $p < 0.01$) on introduction of TQM as mediator.

The results above indicate a significant reduction in the relationship between communication and QSD (from $\beta = 0.531$ to $\beta = 0.402$). Therefore, the total effect of communication on QSD is lower in regression model 3 ($\beta = 0.402$) than in regression model 2 ($\beta = 0.531$). The results indicate a significant reduction in the relationship between communication and QSD (from $\beta = 0.531$, $p < 0.01$; to $\beta = 0.402$, $p < 0.01$) once a mediating variable (TQM) in the third regression model is introduced (Jose 2003, 2008). Further, a partial type of mediation was recorded because the correlation between the independent variable communication and QSD reduced to a significant and considerable level (0.531** to 0.402**). The large and significant Sobel z-value (3.73734) suggests that TQM mediates the relationship between communication and QSD in Uganda's LGs.

Finally, the proportional index of 24.3%, generated from the calculation $0.129/0.531 \times 100$, is an illustration that 24.3% of communication influence on quality of services that LGs deliver goes indirectly through TQM, whereas 75.7% of the effect is direct. Therefore, the mediation effect of TQM on the relationship between communication and QSD in LGs is significant ($z = 3.73$; $p < 0.01$). Based on this, hypothesis H_3, that TQM mediates the relationship between communication and QSD, is supported.

Discussion

This study assessed and examined the mediating role of TQM on the relationship between communication and QSD in Uganda's LGs. In providing answers to this: the relationship between Communication and Quality Service Delivery; Communication and TQM (mediator); as mediation pre- conditions, as suggested by Baron and Kenny, (1986), was determined. The study established a positive and significant link between communication and QSD. This finding is consistent with previous studies (Nardi 2005; Berger 2008; Canary 2011), suggesting that, as organisations reform their communication systems, there is a likelihood that the quality of services delivered will improve; as organisations become focused on customer needs, they become responsive, empathetic and, above all, reliable. This study also established a positive and significant link between communication and TQM in Uganda's LGs. This finding is consistent with previous studies (Kayis et al. 2003; Mjema et al. 2005), who established that TQM initiatives require adequate communication. Based on this finding, when LGs improve on their communication systems, TQM initiatives will likely be stimulated, which in turn may support QSD improvements by LGs.

The study also established that TQM partially mediated the relationship between communication and QSD in Uganda's LGs. This unique communication–TQM–QSD relationship reinforced employees' perception that communication supports LG QSD efforts. However, this support is not direct, considering that the proportional index indicates that 24.3% of the communication influence on QSD goes through TQM. This suggests the potentiality that communication can be relied on to improve TQM attributes such as teamwork, customer focus, leadership and employee involvement, among others, which later translate into QSD by LGs. This is in line with previous studies by Garling (2008) and Hughes and Walters (2007), who established that adverse effects in total quality arise from communication failures. Similarly, Harris and Nelson (2008) established that the communication role in TQM initiatives is essential in spurring QSD.

The results indicate a partial type of mediation, as illustrated by an index ratio of 23.4%. This finding reveals that changes in communication influence TQM changes, which partly result in changes in quality of services that LGs deliver. In particular, the results indicate that 24.3% of the influence of communication on QSD goes through TQM.

Theoretical and practical implications

The findings of this study have serious implications for both academicians and managers. First, this study provides academicians with important data for future research. The paper contributes to the service literature by extending debate on the role of communication for QSD within the context of LGs, whose empirical stance is still scanty. In addition, it contributes to literature on TQM by highlighting its mediating influence for QSD in LGs. Accordingly, this paper emphasises two critical and specific theoretical contributions. First, it reveals that communication play a major role for QSD directly, as well as indirectly through TQM. Precisely, the study reveals that communication improves implementation of TQM principles, and consequently permits delivery of quality services. Communication was found in previous studies to be an antecedent for QSD (Harris and Nelson 2008). We demonstrate that communication influences QSD partly through the conjunctive role of TQM principles. This means that organisations that improve on their communication systems are likely to ease implementation of TQM philosophy and this may consequently stimulate QSD. The possible reason is that communication has the potential to stimulate teamwork and to drive fear out of employees, which are essentials in TQM implementation, hence QSD.

Second, this study is relevant to service literature when viewed in the context of heightened prospect and citizens' expectations due to the New Public Management drive where pressures to meet citizens' preferences, though a requirement, are challenging and accordingly require several forces to work collectively in order to realise a unique purpose. Therefore, this study qualifies the intra-relations of communication, TQM and QSD previously revealed in the literature review section, and estimates their distinct effects on QSD. In short, the present study contributes to a better and thorough understanding of the role of communication, TQM and QSD, suggesting that implementation of the TQM vision, enhanced by communication, is necessary for QSD. From a practical perspective, promoting the TQM culture can be realised through focusing on clients' needs, process management, promoting employee involvement, leadership and management commitment, teamwork and process design. Furthermore, improving QSD by LGs and implementation of TQM principles can be achieved through reforming communication structures and improving communication satisfaction in LGs. For example, employees' satisfaction with overall information flow in LGs is likely to facilitate implementation of TQM principles such as teamwork, process management, leadership and management commitment, which are essential in QSD. Also, the relationship established between TQM and QSD is insightful because, based on that finding, organisational processes, procedures, policies and systems can be applied to support LGs' efforts in QSD.

Finally, it is implied that, if LG authorities improve communication systems, together with appropriate TQM principles such as leadership, customer focus, process design, process management and teamwork, among others, QSD will improve. Local government managers can only improve QSD through reforming their communication systems and also facilitate TQM practices. Therefore, the study implies that appropriate communication systems can considerably support TQM practices and initiatives, leading to QSD. It is our anticipation that this study draws the attention of academicians and practioners in this area.

Conclusion

This study assessed the mediating influence of TQM on the relationship between communication and QSD in Uganda's LG. The findings revealed a partial type of mediation, that is TQM partially mediates the relationship between communication and QSD in Uganda's LG, though the indirect effects of the mediator (TQM), given by the proportional index of 24.3%, was weaker than the direct links between communication and QSD. Despite this, it is necessary to note that TQM remains critical in the unique relationship between communication and QSD. Based on this, this study contributes to knowledge by revealing that TQM is a significant mediator of communication and QSD within the realm of Uganda's LGs.

Limitations and suggestions for future study

Despite the fact that this study reveals several contributions to both academicians and LG practioners, it has also some limitations. First, the study findings accrued from a cross-sectional research design, which rendered causal inferences difficult to draw from our results. Therefore, future studies should consider mediation studies from a longitudinal perspective. Second, the data were collected from only heads of department and section heads from Uganda's LGs. Therefore, the findings may be limited to the sample studied and, therefore, negate the possibility of generalisation. Future studies should consider testing this mediation model with different people and different LGs outside Uganda, in order to deal with issues of external validity (Kerlinger and Lee 2000). Finally, data were collected through self-report questionnaires, implying that the magnitude of correlation coefficients may have been inflated by the common methods variance (Spector 2006). Although we conducted a test for the methods variance effect as recommended by Podsakoff et al. (2003), which indicated a tolerable effect, we cannot emphatically rule this out completely. Longitudinal studies can still provide sufficient remedies to deal with this limitation.

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