

An assessment of the relationship between shared solid waste management services and effectiveness in service delivery in Kampala Capital City Authority, Uganda.

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Abstract: *This manuscript assesses the effectiveness of KCCA in management of solid waste in Uganda through a theoretical framework of 'social welfare', 'standardization', 'effectiveness', 'efficiency', 'equity', 'economies of scale and scope', 'cost', 'quality' and 'quantity' (SSEEECCQQ). This study attempted to assess the relationship between sharing and the effectiveness of solid waste management services without considering other variables listed in the framework domain. The main instrument used to collect data was a questionnaire though informal discussions were included to supplement quantified results. Two categories were investigated i.e., (a) staff of KCCA at operational and senior level, and (b) town dwellers. The overall results indicate that sharing solid waste services significantly affects the implementation process, the supervision, trust between the community members and partnerships since the p -values are all less than 0.05. Moreover, the approach of sharing waste management resources among divisions i.e., (a) refuse trucks, (b) casual workers, and (c) heavy equipments has helped to improve service delivery in waste management. Hopefully the findings will help dwellers appreciate a shared responsibility of maintaining a clean city and policy makers will appreciate the need to draft a policy that will guide shared service operations which model can be replicated in many municipalities in Uganda to nurse the desire of achieving a competent and enterprising public service at the same time maintaining a clean city.*

I. Introduction

Societal and financial deviations have affected the state of solid waste management in poor developing countries. This coupled with increased requests by the voters for greater standards in solid waste management and a fiscal depression at the start of the 1990s have continuously controlled the state in which, uniquely, the responsibilities of the public authorities have turned out to be more difficult and changed while, on the other side, monetary capital is deteriorating at an equal level (Steiner, 2003). (Belloc & Pagano, 2005; C. Wood, 2006; C. H. Wood, 2004) argued that, public-public partnerships have developed as a system of choice for numerous authorities in the provision of urban services. Confronted with merged trials and partial resources, inter-organizational partnerships are gradually recommended as the tool to advance the effectiveness and efficiency of public services.

(Stephen P Osborne, 2010; S.P. Osborne, 2010) terms it as, an era of complex and 'fragmented service delivery system' for public services. Different countries use various terminologies to describe collaborative inter council undertakings i.e., 'inter-jurisdictional agreements (IJAs), (Andrew, 2009), inter local agreements (Carr, LeRoux, & Shrestha, 2009), networks, mergers or alliances, partnerships, collaborations' (Andrews & Entwistle, 2010) and shared services in Australia (Dollery & Akimov, 2008) and the United Kingdom (Tomkinson, 2007), they commonly signify established methods for dealing with common social challenges in fragmented local government structures and systems. (Oakerson, 1999), defined "shared services as an agreement involving two or more public organizations cooperating to render services for the common good of the people".

Waste management is the creation, reducing, categorizing, supervising, handling, treatment, reprocessing and enduring collection of solid waste on a daily basis.

Background

The decentralization of solid waste management intensified in 1997 when the Local government Act (GoU, 1997) was enacted and divisions became more powerful politically to manage their affairs in terms of service delivery. The objective was to reduce the workload from the central to the local level to enable the delivery of the much needed services to the people. Unfortunately this was not the case, the practice conflicted with the theory and solid waste management worsened including the landfill management in Kitezi. There was a

lot of indiscriminate waste disposal habits among the residents, lack of trade order that left city roads dirty, unregulated life style in waste generation, unwillingness to pay for waste collection services, inability to afford levied charges, lack of possession of homes that significantly contributed to man-made floods in the city (G. o. U. KCCA, 2011). Such a state of affairs needed a novel method to improve solid waste management in Uganda.

Shared services stem from the private sector, and is seen as an adapted model in public sector that is primarily in its phases of growth. By taking into account the private sector contribution on the literature, it is possible to identify the inter- relationship between performance and operation of shared services within the public sector. The main reasons meant for initiation of shared services is attaining additional cost-effective service delivery that include returned competitive edge and greater quality (Triplett & Scheumann, 2000).

According to theorists, shared services can improve bottom line performance, increase firm competitiveness, enhance firm’s architectural liveliness by easing change towards new structural business reforms like ‘Shared service organizations’ and ‘service oriented enterprises’ (Bergeron, 2003a, 2003b; Janssen & Joha, 2008), shared service in private sector may advance structural knowledge and revolution by centralizing technical and managerial expertise and enabling information sharing (Cooke, 2006). It is on the basis of this back ground that public sector embraced the shared service model in waste management to improve service delivery under the new City management of KCCA. This study therefore investigates the relationship between sharing waste management services and effective performance among the five divisions of KCCA i.e., Kampala central, Lubaga, Nakawa, Makindye and Kawempe.

Largely, the review of shared services engagements through both private and public sector discloses that there is inadequate published works on the effectiveness of a diversity of shared service models and engagements. According to the literature, some single cases have been a success factor in highlighting the features in the operation and performance of shared service preparations a case in point like; (Dollery & Crase, 2004; Dollery, Grant, & Akimov, 2010; Madinah, 2015; Murray, Rentell, & Geere, 2008; Pike, 2012; Redman, Snape, Wass, & Hamilton, 2007a, 2007b). It should be observed that evidence is not clear since services investigated were back office services like procurement, account payables, human resource management and information technology. What is not clear is whether ‘shared service may result into reduced costs for services like waste management that a consumer is able to evaluate’; this is as a result of the limited scope given to shared services hence a clear gap to be investigated. This study can therefore claim the novelty of assessing the relationship between sharing and effective waste management using the (SSEEEECQQ) frame work.

Measuring shared service performance in waste management

(Oates, 1998; Quinn, Cooke, & Kris, 2000) reflected on shared services as an action of sharing services outside the borders of a solitary structural entity to improve service delivery.

Based on the literature review, it is evident that there are at least 9 components hidden within the models; such as social welfare, standardization, effectiveness, efficiency, equity, economies of scale and scope, quality, quantity and customer focus in the construct of shared services, (SSEEEECQQ) i.e., standardization (Ruggini, 2006), social welfare, (Buchanan, 1965), effectiveness, (Buchanan, 1965), efficiency, (Tomkinson, 2007), equality, (Buchanan, 1965); economies of scale, (Tomkinson, 2007); quality and quantity (Oakerson, 1999), and cost (Buchanan, 1965; Dollery et al., 2010; Oakerson, 1999; Tomkinson, 2007). However this paper is only looking at effectiveness and the rest of the eight variables are outside the scope of this research.

(Wiener, 1988) defines effectiveness in terms of both the competence (efficiency) of the changed practices and how well the service or product is transferred into the surroundings and recycled back into usable inputs for the organization. i.e., effectiveness is simply doing things in the right way to achieve a set objectives (Drucker, 2006). Effectiveness is ability to perform as expected or being result oriented. At the end of the day, there must be results handy to account for what has been done. (Drucker, 2011). Also recognizing reasons that underly the accomplishment of the business objectives is termed as effectiveness, (Fotiadis, Vassiliadis, & Piper, 2014) and according to (Boyne, 2002) effectiveness is the ‘attainment of the official goals of the services’

The effectiveness of the shared services arrangement is also believed to be dependent on the effectiveness of the implementation process (Borins, 2001; Dollery, Akimov, & Byrnes, 2009; Piening & Warsh, 2002) and the trust among partners is equally a key success factor of shared services public- public service delivery.

Quantifying effectiveness in solid waste management

Table 3.3 Indicators of Effectiveness for KCCA in SWM services

Criteria	Performance indicators	Target
Effectiveness	(i) <u>Shared services health/solid waste management</u>	Directors KCCA & senior officials
	• Effectiveness of the implementation process	Employees of KCCA in public health department
	• Levels of supervision	
	• Levels of trust of the partners in the partnership	Mayors, Deputy Mayor,

- | | |
|---|-------------|
| • Partnership dissolve due to selfish interests | Town Clerks |
| • Partnerships control and supervision | |
| • Distrust among partners | |

Source: Researcher

II. Methodology

The use of a dominant principle of quantitative and qualitative approaches in a mixture to provide a better understanding of shared services in operational services like waste management and to appreciate the difficulties involved in using either approaches single handedly, (Creswell & Clark, 2007). A quantitative questionnaire was distributed to two categories i.e., the workers in KCCA in waste management section and Kampala dwellers. Furthermore, informal discussions were conducted among dwellers, private waste collectors and contract and casual employees in KCCA to determine whether the shared solid waste management model has improved service delivery in the City.

Size Calculation for Proportionate to Population Size (PPS) Sampling

The total sample size was calculated using Chris and Morgan table. From the estimated population of 2.5 million, the sample was 723. Using cluster sampling, the process ended at two stages: the sampling interval was calculated to get 30 clusters consisting of heads of the household in terms of paying waste management bills. Next step was to determine the number of individuals to be sampled in each cluster using a formula:

$$\text{Number to sample cluster} = \frac{n_{pps}}{m}$$

Where n_{pps} = sample size proportionate to population size

m = the number of clusters

Therefore, Sample Size Calculation for Proportionate to Population Size (PPS) sampling of the study runs as:

$$\frac{723}{30} = 24.1$$

Sample units are always rounded up on the number of individuals to survey per cluster, which made it 24 per cluster.

Table 3.11. List of 30 parishes from all divisions where questionnaires were distributed.

Division	Number of parish	Names of parishes where questionnaires were distributed
1. Central	3	Industrial area, Kisenyi and Nakasero
2. Kawempe	6	Makerere II, Bwaise I, Mulago, Wandegaya, Kawempe II and Kazo - Angola
3. Makindye	8	Kibuye, Kibuli, Kisugu, Kansanga, Bunga, Katwe, Monitor publication and Namuwongo.
4. Nakawa	6	Bukoto I, Luzira, Mbuya, Banda, Nakawa, and Naguru
5. Rubaga	7	Mengo, Katwe, Ndeba, Nalukolongo, Natette, Wakaliga, Kisenyi III
Total	30	

To determine this improvement, a chi-square was performed, correlation and regression analysis to test whether the sharing model has an impact on waste management improvement in terms of effectiveness.

III. Results and discussion

The chi-square test was used to test whether sharing services has significant relationship with effectiveness in solid waste management services. The effectiveness in the services was measured in terms of the implementation process of sharing, supervision of activities, trust of partners, selfishness among partners in the partnership, control and distrust among partners.

The study further revealed that sharing solid waste services also has a significant effect on the degree of effectiveness of service delivery. Sharing solid waste services significantly affects the implementation process, the supervision, trust between the community members and partnerships as seen in table: 1 where the p-values are all less than 0.05. This enhances effectiveness in service delivery.

Table: 1 chi-square results for the association between shared solid waste and effectiveness in service delivery

Variable	Chi-square Value	P-value
Costs		
Effectiveness		
1. Implementation process	38.927	0.000
2. Supervision	48.556	0.000

3.Trust of partners	126	0.000
4.Selfishness	85.127	0.000
5.Control	62.246	0.000
6.Distrust	43.378	0.000

The correlation test in table: 2 between sharing solid waste services and effectiveness showed that there is a positive relationship between sharing solid waste services and the level of effectiveness. In terms of implementation process it gets better as sharing increases ($\rho=0.062^{**}$, $\square=0.062^{*}$)

The more the sharing the less the supervision ($\rho=-0.033^{*}$, $\square=-0.033^{*}$) implying that the more partners build some level of trust through sharing, the more the partners trust each other ($\rho=0.017^{*}$, $\square=0.017^{*}$), increased level of sharing leads to less selfishness ($\rho=-0.093^{*}$, $\square=-0.093^{*}$) since all the government departments are working to achieve the same goals and the as sharing improves there is less distrust among partners ($\rho=-0.012^{*}$, $\square=-0.012^{*}$).

Table 2: Relationship between shared shared solid waste services and effectiveness in service delivery

	Shared solid waste services	implementation process	supervision	trust of partners	selfishness	control	Distrust
implementation process	0.062*	1.000					
supervision	-0.033*	0.010	1.000				
trust of partners	0.017*	.774(**)	0.111	1.000			
Selfishness	-0.093*	.464(**)	.550(**)	.732(**)	1.000		
Control	0.075	0.005	.730(**)	0.158	.605(**)	1.000	
Distrust	-0.012*	.537(**)	.360(**)	.687(**)	.774(**)	.546(**)	1.000

**Correlation is significant at the 0.01 level (2-tailed) *Correlation is significant at 0.05 level (2-tailed)

IV. Conclusion

The sharing model has been operationalized through assessing the relationship of sharing and the effective dimension and there is proof from the respondents that indeed the sharing model exists and has contributed to improvements of waste management services in Kampala. Though correlations are low, they have a significant impact on determining the effective performance in service delivery.

Generally KCCA is effective in waste management though its performance has not reached the desired level, this could be attributed to; (i) total government support, (ii) motivated employees and, (iii) a reasonable level of autonomy that was awarded to KCCA thorough alegal instrument (KCCA, 2010; Madinah, 2014) with specific objectives to achieve i.e., increase waste collection efficiency and improve the sanitation of the city.

Although KCCA is still new in the administration of the city, it has demonstrated modest changes in sanitation and beautification of Kampala City simply because it embraced new work methods through sharing refuse trucks, casual workers and heavy equipment to reduce on the accumulated garbage backlogs that were inherited from KCC. Since theory argues that effectiveness of sharing highly depends on how it is implemented, results are in line with theorists since the implementation process becomes better as sharing develops. It should be observed that shared services have their flaws since their success highly depends on how well they are implemented (Dollery, et, al. (2010).

Data from informal discussions and reports indicated that efficiency in solid waste has improved from 45- 55% of the generated waste in the city, an implication that KCCA has performed better than KCC. Town dwellers are impressed with the improvement in sanitation though a lot needs to be done especially in slums and drainage channels. They are also worried of displacement since the KCCA is passionate about trade order. The sharing model could be an answer to the pending problems of an inefficient public service in Uganda.

Hence if carefully managed and implemented, it might solve all societal challenges that individual divisions and districts cannot solve independently and the novel arrangement should be encouraged since it is likely to reduce costs by reducing on supervision. Enterprises governments aim at generating resources before expenditure, through shared services, government can generate a lot of income while implementing the amended solid waste management ordinance since the existing one does not much the current vision of KCCA. In order to create sanity in the city, shared service policy should be drafted to support in guiding its operations.

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