

Marrying Theory, Technology and Proactive Management to Improve Revenue

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1 INTRODUCTION

Revenue improvement is critical to the sustainability of local government. An understanding of the background and history of local government's current state of affairs is instructive in seeking solutions in this area.

Collectively local government in South Africa is owed billions, and the debt is increasing rapidly. Many municipalities either have not submitted annual financial statements or have qualified audit reports. Administrative systems are poor and severe service delivery backlogs exist. Long term planning is poor and the current focus seems to be on development rather than balancing development with recovery in the face of growing demands and expectations from residents.

Major issues are the ageing infrastructure, lack of integrity of technical, billing and financial data, the lack of maintenance and over-usage of water and electricity by indigent households.

The situation is exacerbated by political interference and paralysis due to EDI restructuring. The result is a viscous cycle of increased prices and reduced quality of services delivered.

2 THE THEORY

Revenue improvement or Revenue Management, as it is more widely known, is developing as technology

and the theory develops as processes and techniques evolve. However, the basic principles are quite simple and are a variation of the following processes:

2.1 A MULTI-DISCIPLINE INITIATIVE

All the experts agree that Revenue Management is a process that crosses traditional functional boundaries in an organisation. (Finance, technical, Operations, Customer Service, Legal) Revenue management must be seen as an integration process within the business rather than a necessary add-on to deal with a difficult situation.

2.2 IDENTIFYING AND ENGAGING CUSTOMERS

The municipality does not correctly identify many customers. This may be for a number of various reasons:

- The customer does not exist,
- The customer details are incorrect,
- The customer is associated with the wrong tariff,
- The point of supply is unknown,
- The customer cannot be linked to a valid meter or account number, etc , etc

Techniques to identify customers vary from desk research to field audits and best practices include the use of GIS/ GPS.

Generally, informed customers are happy customers and happy customers are paying customers. It

is the responsibility of the local authority to perform surveys to determine the attitude and perceptions of customers towards the municipality. Customers need to know why they must pay for their services, what each service costs and what quality of service to expect in return.

It is very important to inform customers of the implications of non-payment, fraud and theft. Customers must also have a mechanism to query issues and to complain. A comprehensive communications campaign should be developed to target various customer groupings.

2.3 MEASURING AND RECORDING CONSUMPTION

In order to reduce wastage and prevent inequity, all customers need to be metered. Individual customers need to be accurately metered and bulk water and electricity supply points also need to be metered to provide information regarding the losses incurred per zone or transformer feeder.

Once all customers have been correctly identified and have appropriate metering devices recording consumption correctly, the municipality is on its way to improve revenue.

2.4 METER READING AND BILLING

Accurate and timely bills are essential to build trust between the authority and its customers. In many cases meter reading is successfully outsourced, but outsourcing does not guarantee quality and contractors need to be closely managed and audited on a regular basis.

Billing systems require flexibility in reporting and must have mechanisms to flag abnormal

readings, no readings and accounts not billed. Normally processes are developed to manage exceptions and to perform journal entries and credit notes. Best practice systems include interfaces to workflow systems, financial systems and Customer information systems.

Once again the most critical part of the billing system is the data used to drive the system. Missing or incorrect data has direct revenue cash flow implications and hence data integrity needs to be closely managed.

2.5 REVENUE COLLECTION

The most important revenue to collect is the easiest and surest debt. These are the immediately outstanding or current accounts.

After cherry picking the easiest collections, a process to determine which arrears are collectable should be implemented since some arrears are uncollectible due to affordability issues, disputes and/or prescription.

Typical techniques to improve collection include early settlement discounts, prizes on offer to paid up customers, prepaid metering and debt consolidation.

It should be very easy and convenient for customers to pay for their services. Options such as prepayment, payment by debit order and individualised payment agreements are sure to increase revenue. Multiple payment channels particularly via cell phones (M-commerce) and web payments are becoming popular mechanisms in this regard.

2.6 CREDIT CONTROL & AUDITS

Effective credit control relies on accurate data, particular historical outstanding arrears data. The

process is resource intensive and significant training in areas of safety, data analysis, customer service, financial and legal processes are required. In addition to the requirement for skilled resources, standard processes and procedures need to be put into place.

Credit Control, in particular, involves all disciplines in the organisation and good communication is essential. Software packages to manage credit control processes are the norm but historical contacts with customers are not always stored and easily available for later analysis.

Audits need to be the result of careful data analysis rather than ad-hoc activities.

2.7 MAINTENANCE AND CUSTOMER SERVICE

There is certainly a good correlation between good Quality of Supply, excellent customer service and disciplined credit control AND outstanding debt. Reliable networks, accurate meters and accurate data make it easy to provide appropriate levels of service to customers. What remains is a timely bill and convenient mechanisms to settle accounts, as previously discussed.

Given the above, customers have no excuse for not meeting their contractual and moral obligations to pay for their services.

2.8 REVENUE PROTECTION PROGRAM

Integrated revenue protection programs are finally getting the recognition and status befitting their contribution to the sustainability and success of local authorities. Such departments need to consider their relationship with customers as one of mutual respect and trust and customers need to be informed of increased revenue protection

activities and the associated consequences for defaulting customers as well as the benefits for law abiding regular paying customers.

3 TECHNOLOGY

For every problem in the revenue management cycle there are hundreds of technologically based options proposed as a solution. However, in the current South African environment where lack of skilled resources and funds abound, many of these solutions are not sustainable. Advances in technology have certainly made the revenue management more effective and efficient and the most important of these are discussed here:

3.1 GIS AND ONE VIEW OF CUSTOMER

"The Weaker the data available upon which to base one's conclusion, the greater the precision that should be quoted in order to give the data authenticity," Norman R. Augustine

Geographical information systems provide utilities with accurate data and useful information to manage their assets and customer base.

GIS coupled with GPS and an intelligent software package can assist in maintaining data integrity and recovering "lost revenue." Essentially the system should be used to provide aerial photographs or maps of the area, with spatially references to the physical and electrical distribution network, metering points within buildings and buildings without meters installed. All network and customer documentation should be linked to the software and the system should be able to reflect all the assets employed in that area. The systems are web-enabled client-server oriented

to provide widespread access to relevant data.

Ideally the system should interface to SCADA, Call-Centre and Workflow systems and provide automated energy balancing reports.

Call centre operators should have access to thin-client terminal where a single screen can provide all information for a particular customer: Personal information, contracts, tariffs, position in distribution network, billing and payment history, metering equipment history and logged interactions with the customer.

3.2 WIRELESS COMMUNICATION AND AMR

The proliferation of low cost communication technologies for both voice and data should be exploited to provide:

- AMR functionality, where cost effective.
- Photographic evidence of tamper/bypassing using camera enabled mobile phones.
- SMS to communicate with customers regarding power outages, revenue protection initiatives and whistle blowing initiatives.

The reduced cost of hardware and data for wireless communications is making AMR a must for all LPUs and potentially viable for small commercial and residential customers.

The benefits of AMR in reducing meter reading and associated costs and in providing signals for potential fraud and bypassing need to be carefully considered on a lifecycle basis, including, revenue improvement issues, cost of

maintenance and operational costs in the calculations.

3.3 E-BILLING, E-PAYMENT

Web-based bills and e-mailed bills are cost effective and efficient for high-end customers with access to the internet. However, bills should be the same as paper based bills and the service needs to be actively marketed to target customers. The ability to pay bills directly from a link on the emailed or online bill should be provided.

There are very important considerations with respect to security and anti-spam systems incorrectly deleting or filtering e-bills and specialist support is required to avoid these pitfalls.

4 PROACTIVE MANAGEMENT

Proactive Management is the glue that integrates theory and the technology to improve revenue in a resource constrained environment. The following areas should be the focus of a proactive management team.

4.1 DATA INTEGRITY

A pre-requisite to improved revenue is to ensure that data integrity is maintained. The reality is that the quality of data in municipalities is extremely poor and the practice of performing regular field audits to clean data is costly, inefficient and unsustainable.

The solution is to employ GIS\GPS technology in conjunction with desk audits and field audits to correct existing data. Processes and procedures to maintain data integrity need to be put in place prior to conducting any audits.

Data sources include Surveyor General information, billing and

financial systems, Deeds offices, voters rolls, SARS and accounts for other services.

The key is to integrate and analyse data from the desk-top first and then to increase the recovery per audit while reducing the total number of physical audit visits as well as the average cost per audit.

4.2 LIFE CYCLE APPROACH

Revenue management should be built into the core values and practices of a municipality. Decisions regarding investments should focus on the potential saving in reducing losses and decreasing operational costs in the long term rather than on once off capital expenditure and annual costs.

Many initiatives are technically advanced and require specialist knowledge and support to maintain and operate – Don't be afraid to outsource these activities. In fact, given the scarce resources, a strategy of outsourcing combined within in-house on-the job training with a view to take over the outsourced activities in the future may be a wise decision for many local authorities.

4.3 LEVERAGE TECHNOLOGY

Technologies that support the maintenance of data accuracy and intelligent analysis of data should be pursued. The key is an advanced, world class IT system and integration between applications.

Best practices to improve revenue include online billing, spatial support systems, AMR and relational databases with client server architectures.

Ideally integration between meter management systems, financial

systems, asset management systems and workflow management and call centres should be installed.

4.4 ENERGY BALANCING

Installation of AMR at bulk metering points helps to target areas where technical, and more importantly non-technical losses are problematic. Accurate balancing is dependent on accurate technical mapping of electricity and water distribution networks.

Results from energy balancing should be used to focus energy audits by revenue protection teams and in the case of Large Power users, technical specialists should be sent to audit metering installations checking, instrument transformers, metering and billing constants and ensuring no bypassing takes place.

Integration between conventional and prepaid customers is essential and where possible all readings and calculations should be automated.

4.5 MEASURE MEASURE MEASURE

Proactive management includes constant measurement of performance and productivity measures. A comprehensive list of metrics that the local authority should aspire to must be measured on a monthly basis: Typical measures should include:

- % technical losses
- % non-technical losses
- Recovery of kWh per Revenue Protection Activity (RPA)
- Collection ratios
- Customer queries per month
- Query resolution time
- Cost per resolution
- Number of unbilled customers

4.6 APPLY PARETO PRINCIPLE

A general rule of thumb is that 20% of customers account for 80% of the utility's turnover. These are typical large users with expensive metering and high consumption levels. These customers need to be identified as the top 100 or top 200 customers. These top customers must be targeted for special attention:

- Comprehensive data audits,
- Metering point audits,
- Frequent customer surveys
- Dedicated account managers.

These accounts also need to be targeted for high-tech support such as AMR, web enabled bills and load profiling.

A common misconception is that revenue improvement (revenue protection initiatives) is for the low-income residential customers. The South African experience has shown that large percentages of lost revenue are due to metering errors and fraud for large commercial and industrial customers.

5 CONCLUSIONS

Theory combined with appropriate use of technology and proactive management can be a powerful tool to improve revenue. The key is to have accurate data, continuous measurement and productivity improvement with an empowering culture where training and accountability of employees is of paramount importance. Strategic management also involves the astute use of outsourcing in our resource scarce environment, but with strong project and commercial management of contractors and mechanisms to provide skills transfer and potential co-sourcing of activities in the future.

Revenue improvement is a process requiring a strong focus and

consistent application of credit control activities. These activities need not be the same for all customers but must be consistently applied for all customers within a particular customer category.

Finally revenue improvement is a much about lowering costs as it is about reducing technical and non-technical losses.