Inter-American Development Bank

Infrastructure and Environment Sector

TECHNICAL NOTE

No 239

Evaluation Tool to Implement Good Practices in the Area of Customer Management for Water and Sewerage Operators

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2011

This Guidance Note is part of the knowledge products generated by the Water and Sanitation Initiative of the Inter-American Development Bank, approved by the Board of Directors in May 2007. Implementation of the Initiative is led by Mr. Federico Basañes.

This Technical Note was supervised by Corinne Cathala and edited by Jorge Ducci, both at the IADB.

The author wishes to thank the guidance and support provided by Mrs. Corinne Cathala, and the comments to the final report made by Mr. Jorge Ducci, both from INE/WSA, and the support of the IADB field offices in El Salvador and Ecuador.

It is also a pleasure to thank the support given by the water companies of El Salvador and Quito, with special mention of Mr. Ricardo Antonio Vásquez López, Chief of Billing at ANDA, who has guided us in the awareness of commercial management in his company, and Eng. Agustín Casanova, Commercial Manager, who opened the doors of the commercial area at EMAAP-Q. In addition, the consultant would like to thank all professionals interviewed in both companies,that always gave us a warm welcome and did not doubt in spending their time to test this tool.

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ACRONYMS

ANDA ..... Administración Nacional de Acueductos y Alcantarillados

CIS ..... Customer Information System

GPS ..... Global Positioning System

GSM..... Global System for Mobile Communications

IADB..... Inter-American Development Bank

KPI ..... Key Performance Indicator

VIP ..... Very Important People

SUMMARY

The Water and Sanitation Division (INE/WSA) of the IADB is developing tools to assist operators of water companies in the identification and adoption of best practices in various management areas. At the request of various operators, the Bank has decided to develop a tool for evaluating customer management practices in use by water and sewerage utilities.

For the design of this tool we have considered four levels of customer management development, identified as follows:

- Level 1: The obsolete company
- Level 2: The operational company
- Level 3: The modern company
- Level 4: The company of the 21st century

In order to facilitate the use of this tool, all matters which relate to customer management have been grouped into four main functional areas:

- The "Billing Factory" or the recurrent billing and collection activities;
- The Revenue Management (one of the key aims of customer management is to ensure the revenues necessary for the existence and development of the company);
- The Customer Care, management of contacts with customers (with hundreds of thousands of customers, contacts are made on a daily basis and the company must be organized to deal with them);
- The Customers' Marketing, a relatively new activity in water and sewerage companies, which aims to study and propose solutions tailored for various types of customers (the hundreds of thousands of customers may not be regarded as monolithic, so marketing techniques provide powerful tools for analysis and action).

In order to develop the evaluation tool for customer management in a water company, we drew on the work done by the IADB regarding the assessment of the level of development of corporate governance of water and sewerage utilities.

The tool is an Excel program[1], using macros in Visual Basic, and designed to be "freestanding".

This tool may be used in two major ways:

- As a support for dialogue between a professional of customer management and an external expert (consultant or auditor, for example);
- Directly by the company itself to measure the consistency of different approaches to customer management and perceptions regarding their effectiveness.

Developing an Action Plan should logically be the result of the implementation of the tool in a water supply company. Drawing on the analysis of the "yellow" points (the company is planning to implement them on the short term) and "red" points (the company does not plan to do so) it is then possible to build an action plan to move from the current level to the desired one.

The tests performed at ANDA, in El Salvador, and EMAAP-Q in Quito, Ecuador, helped validate the concept and the questions of the assessment tool in detail. Separate reports have been produced, including an analysis of their customer management activities, the results of using the tool and the proposed action plan to strengthen the management of their respective customers.

The tests highlighted the risks of having variable responses due to the modality of use, and the importance of providing initial training to participants.

The highly operational nature of the questions proposed in the evaluation tool allows, in view of the choices made by the company and the industry standards, to build an action plan. However, the development of this action plan is not automatic, and always requires an analysis of the current situation, which may be restricted to areas emerging as deficient from the evaluation.

[1] The tool is available at: http://www.iadb.org/en/topics/water-sanitation/publications,2031.html

Lastly, this evaluation tool should not be a rigid one and should follow instead the technological developments of the profession. Its updating, through the amendment of the existing questions or the development of new ones, is easy, as long as the current functional themes are maintained. It is therefore important, in order to keep the tool alive, to have feedback sessions when it is implemented in a company.

INTRODUCTION

The Water and Sanitation Division (INE/WSA) of the IADB is developing tools to assist operators of water companies in the identification and adoption of best practices in various management areas. At the request of various operators, the Bank has decided to develop a tool for evaluating customer management practices in use by water and sewerage utilities.

This tool should help identify areas of customer management that need to be strengthened and to derive an action plan.

The present report covers the development and the testing of this evaluation tool of customer management practices in water and sewerage companies.

The approach was as follows:

- Development of a questionnaire covering all the activities of customer management, and using four levels of progress;
- Preparation of a prototype, using the technologies applied in the corporate governance assessment tool developed by the IADB;[2]
- Testing the tool on operating companies;
- Completion of the final version of the tool based on the lessons learned from the tests.

This tool was presented to operators during a workshop on customer management in the first half of 2010 held in Aguas Andinas S.A. (Chile), and also at a Washington D.C. meeting with IADB staff.

This report includes the following chapters:

- The proposed four levels of development;
- The functional areas of customer management;
- The evaluation tool;

[2] Cuéllar Boada, Fidel: Corporate Governance in Water and Sanitation Companies. Technical Note No. 106, IADB, 2010.

- The tool tests;
- The conclusions.

THE PROPOSED FOUR LEVELS OF DEVELOPMENT

In order to develop this assessment tool for customer management, we considered four levels of development as follows.

LEVEL 1: THE OBSOLETE COMPANY

The company has old procedures and tools (designed in the 80's when emphasis was placed on the use of IT in the billing process, essentially batch).

At the same time, the company suffers from the existence of an old body of laws and rules, which often hinders modernization due to the imposed constraints.

The main processes may function (otherwise, the company would disappear!) but with significant flaws (and often with a poor collection rate).

For these companies the action plan for upgrading the customer management system can only be part of a broader plan of action implemented by the General Management.

LEVEL 2: THE OPERATIONAL COMPANY

At this level, the fundamental processes of customer management are operational: the billing is being done, collection is taking place, and there is a system of customer care.

However, there are still a lot of rigidities and too many obstacles for the implementation of new technologies or methods to improve productivity and quality of customer service.

In order to implement these methods and technologies, there is a need to rethink the customer management processes (re-engineering) and to come up with new goals for the company along with the necessary means, resources and planning. In this case, the progress goals must be explicit and quantified, in order to measure the performance of the required effort.

At this level, the company often still talks about subscribers or users, not customers.

LEVEL 3: THE MODERN COMPANY

At this level, the company has implemented modern technologies to achieve a level of productivity and quality of service enabling it to be at the forefront of public utilities.

The major processes for customer management are perfectly mastered and the quality level has been achieved. The basic architecture of its information systems is sound and operational, and it is able to evolve.

The company is attentive to the needs of its customers and responds when appropriate. This is the kind of company which wanted to move from a subscriber to a customer concept, proving the importance of the quality of relationship with the latter, even if it is still monopoly in practice.

Particular attention is paid to the productivity of the customer management system.

LEVEL 4: THE COMPANY OF THE 21ST. CENTURY

This company could also be regarded as a "communicating" business, where all systems are interconnected to facilitate the exchange of data and information.

With regard to customers' management in particular, great efforts are made to facilitate, where possible, the client's life.

Very often, companies do not wish to spontaneously move to this level of development, but they find themselves pushed to do so either by the regulator or the water utility authority (this was the case in the United Kingdom where the OFWAT action has forced water supply companies to deeply develop their customer management services), or because of competition (through benchmarking with other public utilities, whether commercial or not). To illustrate this last point, two examples follow:

- Benchmarking between the water and the electricity suppliers is easily done (the customer management process is very similar); yet today the electricity suppliers may be faced with real competition, which leads them to make significant investments to improve their relationship with their customers; this will not help the water company regarding benchmarking with utilities that have the customer in their spirit.

- For purely marketing reasons, some utilities have had to make real changes in the level of customer relations management (e.g. commercial banks and mobile phone providers). In fact, they make the water customer see in those operators a standard for quality of service, and thus find quite "old-fashioned" the ones offered by water companies.

The situation of the company itself should allow it to determine its optimal level of development and to allocate the necessary resources to achieve it.

THE FUNCTIONAL THEMES

To facilitate the use of the tool, all questions were grouped into four main functional areas:

- The "Billing Factory" or the recurrent activities of billing and collection;
- The Revenue Management (one of the key aims of customer management is to ensure the company the revenues necessary for its existence and development);
- The Customers' Care (with hundreds of thousands of customers contacts are made on a daily basis and the company must be organized to deal with them);
- The Customers' Marketing, a relatively new activity in water and sewerage companies, which aims to study and offer solutions tailored for various types of customers (the hundreds of thousands of customers may not be regarded as monolithic; marketing techniques provide powerful tools for analysis and action).

THE « BILLING FACTORY » PROCESSES

In a water supply company (this is also true for an electricity supply company), the billing process is a real industrial activity, and must be conceived as such.

Indeed, it contains many industrial features:

- Significant volumes (many water companies produce more than one million invoices per year);
- Quality requirement for the entire billing process, which involves the implementation of quality control systems throughout the manufacturing chain of invoices and payment collection (and the updating of customers' accounts);
- Productivity requirements with the aim to reach cost-effective manufacturing.

In the proposed evaluation tool, the Billing Factory theme is divided into two:

- The concepts applied and the procedures used;
- The tools (software, hardware, computer networks, printing shops, etc.).

METERING

Metering is a major component of a modern water supply: the “flat rate” billing systems - even if they are simple to implement and easy to understand for the customer- are not satisfactory for they present two distortions:

- The customer is not penalized for wasting water;
- When the operators get a guaranteed financial balance through a flat rate billing, they will not be encouraged to improve the performance of their network and repair leakages (which would allow having more water for sale in a "metered" system).

The impact of the introduction of a metering system goes far beyond the billing system, and is therefore a key policy element for the company.

Topic	Level 1	Level 2	Level 3	Level 4
Metering	No meters are used for billing (there may be meters, but not for billing)	Metering is used only for large customers	Metering is the standard for all customers, but there remain a significant number of anomalies (> 5%)	Metering is the standard, and there is a meter control and maintenance system aimed at containing anomalies to less than 5%.

BILLING FREQUENCY

This indicator is important because it is one of the volume parameters, but it is also a parameter for the quality of service received by the customer. In general, we find that:

- Annual billing is not a good customer service (a high amount payable once), although it allows to reduce the weight - and cost - of the Billing Factory;
- Monthly billing leads to high organizational restrictions, and sometimes constraints on the quality of service (payment deadline granted to customers is short);
- The optimal situation is between the bimonthly and the quarterly billing.

Topic	Level 1	Level 2	Level 3	Level 4
Billing frequency	Yearly (one bill per year per connection)	Monthly (one bill per month per connection)	Bimonthly or quarterly	Customizable at customer's request (for example, between 2 and 6 months)

For example, the human resources needed to read meters and distribute invoices are almost doubled when switching from a bimonthly to a monthly rate. The billing frequency has a direct effect on the involved resources, i.e. on the cost and performance of the customer management system.

QUALITY OF THE BILL

The bill is the main tool of communication with the customer, and must therefore be easy to read and understand.

Topic	Level 1	Level 2	Level 3	Level 4
Quality of the bill	Bill format is simple (due amount, due date); difficult to recalculate the bill with printed data	Bill format is simple, but all data needed to recalculate the bill are present.	All data needed to recalculate the bill are present, and the bill is used as a communication media with customers	All data needed to recalculate the bill are present, and the bill is used as a communication media with customers and it is multimedia (i.e. ability to get the bill via Internet)

The best bill should ideally have two reading levels:

- An "immediate" level where the customer should find the most significant data without searching for it (due amount, due date, cubic meters consumed, personalized message);
- An "in-depth" level which allows access to all relevant data, whether of the bill calculation or any commercial procedures that may be of interest for the customer.

The bill format shall be designed as a communication tool, and it is therefore advisable to apply the design tools used in marketing (focus groups to identify key issues, consumer testing to validate the proposed formats, etc.).

TIME FOR « METER READING - BILLING - COLLECTION »

This period is representative of the quality of the organization established to initiate, in each billing period, the billing process. A maximum period for an effective organization is 5 days. The shortest term is "on the spot" when the bill is calculated and distributed by the meter reader himself/herself.

"Collection" means in fact that the customer has in hand the bill and can pay it. It is not about the time granted to pay the bill.

Topic	Level 1	Level 2	Level 3	Level 4
Time R-B-C	> 5 working days	< 5 working days	< 5 working days and discrepancies are investigated	« on the spot » except for some complex cases or anomalies.

BILL DISTRIBUTION

This is an obvious thing, but to pay a bill, the Customer must have received it first. So, controlling the bill distribution is essential to the quality of the Billing Factory. Some CIS do not print bills and only a receipt is being released when the client pays; these systems are unacceptable and are therefore relegated to level 1.

Topic	Level 1	Level 2	Level 3	Level 4
Bill Distribution	No bill distribution (bill is printed when customer pays)	Bills are printed and mailed (outsourcing) but without control of the quality of distribution	Bills are printed and distributed by the company employees who are trained to deal with distribution anomalies	Bill distribution is outsourced with a permanent monitoring of its quality

One efficient technique to control the bill distribution, especially when it involves a third party, be it a state monopoly or a private courier, is to slip in the batch of bills meant for distribution,

invoices with fake addresses: the provider should return them to the issuing company - it is easily controlled.

DUE DATE FOR PAYMENT

This parameter is a significant component of the quality of service received by the customer (who must have enough time to pay the bill), and also an element upon which depends some of the efficiency of the collection efforts made by the company.

Proposing several deadlines (as do credit cards companies) at the customer's choice makes it easier for the customer to settle the bill (for example, suggesting the 5th, 15th or 25th as a deadline for payment): it is the so-called "customizable" option.

Topic	Level 1	Level 2	Level 3	Level 4
Payment Due date	Exceeds the billing period (the next bill comes before the end of the due date)	Time to pay is less than a week or more than 3 weeks	Time to pay is between 2 and 3 weeks	Time to pay is between 2 and 3 weeks, and is customizable according to customer needs (for instance, choice of the day in the month to facilitate customer's cash flow)

The optimal deadline would be two weeks: a shorter one would put the pressure on the customer, although it may be technically justified (especially in the case of a monthly billing cycle, where the deadline must be necessarily short to present an updated customer account on the next bill); a longer one would allow the customer to "forget" to pay the bill.

When the next bill is issued before the payment deadline of the previous bill, the follow-up messages calling for the payment of the bill would lose their effectiveness.

METHODS OF PAYMENT

The level of development is assessed through the implementation of modern methods of payment (debit, credit cards, ATMs, Internet (PayPal), etc.) and by taking into account the local conditions (third-party networks enabling cash payment, like supermarkets, pharmacies, kiosks, etc.).

Topic	Level 1	Level 2	Level 3	Level 4
Payment methods	Mainly cash through collectors	Mainly cash, via collection agencies, and use little or no banking tools	Customers may pay – in cash or check – in third party networks (supermarkets, drugstores, "pago fácil", …)	The full range of modern means of payment (credit card, ATM, Internet) and third party local networks may be used by customers to pay their bills

COLLECTION RATE

The collection rate is an overall indicator of "good health" of the Billing Factory. For it to be high, it is essential to fulfill the following conditions:

- Excellent quality of customer database, with few "ghost clients" or fake addresses;
- Offering methods of payment which are adapted to local conditions and to customers' needs;
- A good system for monitoring collection and recovery;
- A tariff system adapted to customers' capabilities.

The collection rate should be measured according to a given billing cycle and not globally. Besides, the dynamics must also be taken into account with, for example, a first measurement at the due date, then at an additional time (e.g. after 6 months, to be able to reflect the monitoring and recovery actions).

The values of the collection rate are discussed in the chapter on "Revenue Management". Here, we focus on the quality of the tools used.

Topic	Level 1	Level 2	Level 3	Level 4
Follow-up tool of the collection rate	Monitored on a global basis only, year by year	Monitored by billing period	Monitored by billing period, distinguishing between different categories of customers	Monitored by billing period, distinguishing between different categories of customers, with several measurement points in time (dynamic monitoring)

ERROR RATES

Errors in billing are quite detrimental:

- Generates customer dissatisfaction
- Need of correction processes, costly in time and staff
- Loss of revenues when the error is to the detriment of the company.

Topic	Level 1	Level 2	Level 3	Level 4
Billing error rate	Not monitored	Complete billing batches had to be redone in the last 2 years	Monitored and under control (<1%)	Monitored and negligible (<0,1%)

VOLUMES

The volumes depend, on the one hand, on the number of customers, but also on the choices made in terms of frequency. They are an indicator of the type of system - or organization - which will be (or must be) implemented as part of the Billing Factory.

Topic	Level 1	Level 2	Level 3	Level 4
Volume (Number of bills yearly)	< 100 000	from 100 000 to 1 million	from 1 to 10 millions	> 10 millions

THE «BILLING FACTORY» TOOLS

MANAGEMENT OF CUSTOMERS' ACCOUNTS

It is fundamental to differentiate between the concept of the "Customer" (who just signs a contract for water delivery to a point of delivery) and that of the "Contract" (which defines the conditions under which the supply of water is being made at the delivery point to the Client) in order to properly reflect the real situations.

This differentiation allows for the consolidation of bills to be settled by the same entity (the customer or another - for example in the case of public entities).

Topic	Level 1	Level 2	Level 3	Level 4
Differentiation of « Customer » and « contract » concepts	No differentiation (customer = contract)	Yes, one customer may have many contracts, each contract representing a connection	Yes, and possibility of consolidation of contracts according to customer's needs	Yes, same than level 3, with management of individual meters in condominiums with allocation of consumption gap with the main meter

DESCRIPTION OF THE PHYSICAL SITUATION

When it comes to customer management, it is necessary to be able to describe the physical situation encountered in the field, so as to handle the (many) cases which differ from a simple situation where "a customer = a delivery point = a metering point". This is reflected namely by the quality of the customer data model (CDM) used by the logic of customer information system (CIS).

Topic	Level 1	Level 2	Level 3	Level 4
Quality of the Data model	The Data Model of the CIS is unknown; "Name" and "Address" fields are in free format text	The Data Model is known but does not manage all the cases encountered in the field; "Name" and "Address" fields are in free format text	The Data Model is known and manages the concepts of "Customer", "Delivery point", "Metering Point". "Name" and "Address" fields are structured.	Idem level 3, these concepts are fully understood and used by the company. "Name" and "Address" fields are structured and there is a street directory.

The quality of the data model will determine the effectiveness of the tool especially to manage condominiums (with a general meter and one sub-meter for each dwelling or premise; each dwelling or premise constitute a separate customer with their tariff, the consumption difference between the general meter and the total consumption produced by sub-meters to be charged according to an explicit rule).

The billing software, which is an integral part of the CIS, is the main tool upon which the Billing Factory is built. Thus, it is useful to have some KPIs to characterize it, without adopting a real information audit approach which would be outside the scope of this evaluation.

As a first approach, two KPIs shall be used:

- The type of software ;
- The level of integration with other corporate functions.

Topic	Level 1	Level 2	Level 3	Level 4
Billing software – Type of software	IT infrastructure is "mainframe" , using mainly batch processes	IT infrastructure is "mainframe" with transactional activities and relational databases	IT infrastructure uses data servers, application servers and client PCs	Web based (« light » client)
Billing software – Integration	No integration with other information systems (simple accounting interface)	Handles all company billings (including non-periodic) and is interfaced with the accounting system (general and analytical)	Handles all company billings (including non-periodic), is interfaced with the accounting system (general and analytical), and is fully interfaced with the customer care tools	The CIS is fully integrated with other IT systems, including accounting system and field operations management

The level of integration with other functions of the company is a major "marker" of the development level. This allows in fact a re-engineering of the company business processes based on the automated transmission of information between systems and on data sharing. Regarding customer care, it is particularly true in the linking with the work orders' management system.

No question has been included regarding the age of software, although it may be significant, because the subject matter is in fact the software functionality and not its age (an "old" software can fully meet a specific user request). This issue is therefore covered by the question on the type of software, more relevant than that of the software's age.

METER READING TOOLS

The meter reading is the initial act for periodic billings. It is therefore very important to have a quality policy regarding this function. Nowadays, there is a whole range of technological tools which can assist the meter readers in doing their job and reducing the risk of error.

The most powerful tools for reading meters are rugged handheld computers (resistant to shocks and liquids), which can be equipped with:

- GPS (to easily locate the service points, and automatically display the meters that should be present on the site);
- Barcode reader (for an automated capture of the meter's number when it is printed as a barcode on the outer shell or on the meter's register);
- Digital Camera (for taking in situ evidence of fraud -tampered meter, or to document the real reading - high consumptions);
- Portable printer to print immediately the customer's bill (in simple billing cases only); papers have made great progress in terms of preservation, which now exceed 10 years.

Topic	Level 1	Level 2	Level 3	Level 4
Methodology of meter reading	Index cards per individual meters – reading routes not managed by computer	Reading routes managed by the CIS; meter reading uses paper listing (data capture)	Handheld computers, interfaced with the billing software	Improved handheld computers (GPS, digital camera, etc.) and ability to print on site notices and/or water bills

There are technologies that allow remote reading of meters (radio, GSM, etc.). The use of such technologies is justified in specific environments (high frequency of meter reading for process control, structural difficulty to access the meter, etc.). Failing to implement these technologies has no incidence on the level of development of a company. However, a company positioned at level 4 must have good command of such technologies.

REVENUE MANAGEMENT

FOLOW-UP OF COLLECTION RATE

The collection rate is an important indicator of recovery performance, and as a consequence, of revenue tracking. The type of indicator is discussed in the section on Billing Factory. Here, the values of this indicator are discussed in view of the level of development achieved by the company.

Topic	Level 1	Level 2	Level 3	Level 4
Collection rate	< 80 %	> 90% for Large Customers	> 90% monitored by billing period, and > 95 % for Large Customers	> 98 % monitored by billing period

LARGE CUSTOMERS

Large customers contribute largely in the turnover of the company. It is therefore essential to adopt with them a proactive policy regarding billing and collection.

Topic	Level 1	Level 2	Level 3	Level 4
Large customers	No differentiation with other kinds	Statistics and KPIs dedicated at monitoring Large Customers	Dedicated metering policy (meter type, maintenance, reading frequency)	Dedicated policies for Large Customers (meter maintenance, reading, billing frequency, collection management)

METERS MANAGEMENT

The quality of meters is also an important element of revenue management. An old meter can make mistakes like over-metering or under-metering, according to the type of meter. The same is true when the meter is not well installed, or not appropriate for the raw water quality.

The meter reading error = (number of billed connections with a volume different than that read, or for which no reading was possible) / (total number of billed connections).

Topic	Level 1	Level 2	Level 3	Level 4
Meter management	No meters (or meters may exist but are not used for billing purposes)	No meters' management policy (meters are replaced when broken). Meter reading errors > 10%	Systematic calibration of large meters (Ø > 1 inch). Meter reading errors rate < 10%	Meter management policy for all meters, including domestic meters (by sampling). Meter reading errors < 2 %

FIGHT AGAINST FRAUD

The fight against fraud is necessary to preserve the company's revenues. It is better to have policies to regulate the situation of illegal consumers (it increases the number of billed customers) rather than seeking to deny them the services.

A "permanent program" means a permanent action on the part of the company to fight fraud in its various aspects (rigged meters, illegal connections, poor reporting of use as a means to pay a lower tariff, etc.).

Topic	Level 1	Level 2	Level 3	Level 4
Fight against fraud	Only by chance	Unsystematic campaigns for detection and regularization	Corporate policy for detection & regularization with systematic campaigns	Training programs for employees; Corporate policy for detection & regularization with systematic campaigns

TARIFFS

The prices are of course the basis of income generation. The point here is not to go back to the KPIs of a tariff study, but only to recall the KPIs which are of relevance for customer management and revenue generation.

Topic	Level 1	Level 2	Level 3	Level 4
Easiness of tariff implementation	Tariff study has not been updated for over 10 years; Tariffs do not allow the company to make profits	Rates allow for the financial balance of the company but an updated tariff study is required to include future investment needs	Rate structure is in phase with Customer's segmentation and the investment needs, but the tariff study is more than 5 years old	Rates come from a recent tariff study (< 5 years); Rates are easy to understand by the customer; allow payment of water sector rates (for basin entity, for example); help save water

COST OF A NEW CONNECTION

The ability to obtain and fund a new water connection is often a key to the extension of services, either to newly served areas or in the case of densification of operations. Very often, we find that a water connection is available and quite easy to get, but when it comes to a sewerage connection, it is much more difficult, because it is more expensive and it provides a service for which alternatives may exist (like septic tanks).

Topic	Level 1	Level 2	Level 3	Level 4
Cost of a new connection	It is almost impossible to get a new connection	New connection costs are too high for the majority of the newly served people	Mechanisms allow for the financing of new water connections, but sewerage connections are still too expensive	Mechanisms allow the financing of new water and sewerage connections, according to customers' financial ability

COERCION

This measure consists of verifying whether the company has all the tools needed to get paid by delinquent customers. Cutting off the connection is one of the traditionally applied tools; it is effective when implemented quickly (avoid the accumulation of unpaid fees) and there is a will to do so.

The coercion process must be a multi-phase one, which should correspond to the gravity of the offense:

- Follow-up and remind the customers who "forget" to pay: The procedures should make the customer feel that he/she is not forgotten (the follow-up quality is important) and that he/she must pay;
- Implementing tougher procedures when the customer does not respond to reminders; this often results in the issuance of an order to cut off the connection (here, it is essential that the Company shows its will to do the cut offs); this remains within the operational procedures of the company, with some key points (perfect identification of the connection to be cut off, rapid restoration of the service in case of regularization, monitoring the connection which was cut off to avoid a possible return to illegality);
- For the most recalcitrant cases, judicial proceedings are to be taken; this implies that the company has a strong legal framework, and that the number of cases before the judicial authority is not likely to overwhelm the judiciary.

The quality of the CIS is one essential factor (selection and identification of both the customer and the connection, implementation of procedures), the other being the will to implement these procedures.

These policies must be moderated by the need to ensure a social treatment for difficult cases.

Topic	**Level 1**	**Level 2**	**Level 3**	**Level 4**
Coercion	No process to tackle delinquents (debt recovery)	Long time before engaging the debt recovery processes (more than 6 months after the first unpaid bill) Lack of pertinence of many legal procedures	The company enforces a debt recovery policy, but with a steadily growing stock of litigation	The company has debt recovery tools needed for a speedy treatment of delinquency, therefore maintaining irrecoverable bills to a very low level (<1% of sales)

THE CUSTOMER CARE

The management of customer contacts is the second major activity involved in customer management after billing. These contacts are generated:

- by requests from customers, either technical (operations on water and/or sewerage connections) or commercial (modifications on the administrative data of the subscription);
- by customer complaints, either technical (water quality, unscheduled service interruptions) or commercial (billing errors);
- by providing useful information by the population (e.g. visible leaks).

The water supply company must therefore be well-organized to address these exchanges with customers in an optimal way.

CALL CENTER

A Call Center is a tool which allows the company to communicate with customers. There are different levels of development for a Call Center, starting from simple claim answering to an online processing of all commercial procedures (as is the case in England for example).

There are two essential parameters to define the role of this tool in the customer management process:

- Opening hours
- Type of customers issues supported by the Call Center

Topic	Level 1	Level 2	Level 3	Level 4
Call Center	No Call Center, but there is at least one phone number to call the company during office hours	Call Center open during office hours	Call Center open during extended business hours, with someone on duty 24 hours for technical emergencies	Call Center is on duty 24/7

Topic	Level 1	Level 2	Level 3	Level 4
Types of supported requirements	The Call Center handles only information queries (it is not possible to manage any commercial processes online)	The Call Center handles technical complaints and some simple commercial processes	The Call Center handles technical complaints and some simple commercial processes; The Call Center handles online payments	All customer management processes are handled by the Call Center, and the customer is never obliged to go to a Branch

QUALITY OF SERVICE OF A CALL CENTER

Several indicators are being used to measure the quality of service provided to customers by a Call Center. The two main ones are the answering rate (possibly with a speed constraint: taken before the 3rd ring for example) and the recall rate (the Customer is obliged to recall the Call Center before obtaining satisfaction: it is a bad service and an additional cost to the company).

Topic	Level 1	Level 2	Level 3	Level 4
Answering rate	% of calls answered within pre-defined time scales < 80 % (or not measured)	% of calls answered within pre-defined time scales is between 80 % and 90 %	% of calls answered within pre-defined time scales is > 90%	% of calls answered within pre-defined time scales is > 98%

	Level 1	Level 2	Level 3	Level 4
Recall rate	Not measured	< 50%	< 10%	< 5%

The recall rate has not been included in the excel tool due to lack of feasibility, but it may be added in a latter version.

SCRIPTS AND CALL CENTER OPERATORS TRAINING

The quality of a Call Center depends largely on the quality of tools and training provided to the phone operators (this is a company service that may have one of the highest levels of staff turnover).

Two points are particularly important:

- The training of phone operators on the specific features of water supply business, particularly the study of ready-made scripts on how to conduct conversations and identify customers' requests;
- The provision of information, documents, and tools (Intranet, CIS, etc.).

These two points should ensure a good and constant quality of the queries processing, regardless of the agent that supports it.

Topic	Level 1	Level 2	Level 3	Level 4
Training of phone operators	General training about call management; no pre-defined scripts	Call Center agents are trained to handle the most frequent queries /complaints (technical and commercial); in case of more complex queries there is no possibility to upgrade to a specialized agent	Call Center agents are trained to handle the most frequent queries /complaints (technical and commercial); There is an online information database to provide accurate information to all agents; In the case of more complex queries they transfer the call to a specialized / more qualified agent	All types of queries /complaints are documented and Call Center agents are trained to deal with them; There is an online knowledge database to provide accurate information to all agents; Appointments are set-up online, including for technical assistance; Data exchange is automated between the Call Center and field operations (both ways)

BRANCHES

Branches are there to receive customers and process their requests. Receiving customers in a branch is also an opportunity to pass to them a certain number of messages (communication / information).

Branches of public service operators are being compared, in the customers' mind, with other public service locations they may visit. The benchmarking - in terms of the reception quality - will always take place with the leader in the field, often bank branches.

Topic	Level 1	Level 2	Level 3	Level 4
Quality of reception in branches	Poor presentation; no flow separation between customers and staff; high waiting time (> 30 min) at some times	Branches well organized (flow separation between customers and staff, queue management; etc.) but more branches are needed to get good quality service (peak hours) or to avoid the customer a large trip to reach one	Branches well located and in sufficient number; good customer information (processes, activities, KPI, etc.); ATM for auto-assistance	Branches which favorably benchmark to leaders in customer service (often private bank branches); mobile branches to reach customers where they gather (for instance, markets) or to ensure a periodic presence in remote areas.

THE CUSTOMER CHARTER

Traditionally, there is a "subscribers' rules manual" (or a "service rules manual") which defines the conditions under which water and sewerage services take place.

The Customer Charter goes further by defining the rights and duties of the Customer. The "Rights" section provides for the quality of service that the customer should reasonably expect, along with the obligations and penalties that apply to the company so as to ensure that quality of service. These sanctions may include financial penalties (compensation paid to the customer for non-compliance with a major commitment).

Topic	Level 1	Level 2	Level 3	Level 4
Customer Charter	There is a «subscriber's rules manual» which is not systematically given to the customer (nevertheless it is binding to him)	The Service rules manual is well distributed; it does not establish "enforceable rights" for the benefits of consumers (in particular, no penalty in case of water company failures)	In addition to the Service rules manual, the company decides to guarantee some rights to the customer (selection made by the company, not binding and chosen among those the company may assume with low risk)	A Customer Charter sets out the rights and duties of the two parties (the customer, the water company); The Customer Charter was approved by the authorities and there are penalties for breaches

WEB SITE

Having a web site open to its customers is almost an obligation for a public utility. In the water sector it allows the company to provide special commercial information (branches, hours of operation, etc.) and technical information (water quality, pressures, field works, etc.).

The web site may also be designed to allow clients to do some commercial transactions. In some countries (for example the United Kingdom), the organization of the Commercial Department has been changed so that all transactions can be done without the need to go to a commercial branch: all transactions are fully handled from a call center, a web site or by mail.

The web site is a communications media with clients that allow the development of marketing and loyalty actions.

The levels of development for a web site are as follows:

- Level 1: there is no web site for clients, or the web site is not up to date
- Level 2: the web site provides the clients with updated commercial and technical information
- Level 3: the web site allows the clients to do some commercial transactions
- Level 4: the web site allows the client to do all commercial transactions, and it's used for communication with clients and for the handling of marketing and loyalty operations.

Topic	Level 1	Level 2	Level 3	Level 4
Web site characteristics	A website is reserved by the company but unused (just a presentation page)	A company's website is dedicated to the public and gives basic information about the company, commercial information (branch addresses, operating hours, phone numbers, etc.) and technical information (water sources, technologies, etc.)	Same as 2, and it allows to do a selection of simple business transactions	The website for customers can favourably benchmark with the best ones; it allows to process or initiate all commercial processes (including online payments); it is used to communicate with customers and develop loyalty

TIME LIMITS FOR PROCEDURES

It is an essential point for the quality of service received by the customer. The processing time varies depending on the complexity of procedures and fixing deadlines according to the type of procedure has the following advantages:

- It encourages the company to organize itself and be more efficient;
- It helps trigger warning systems when standard time limits are exceeded;
- It allows objective measurements of the quality of the CIS;
- It provides benchmarks to customers.

Topic	Level 1	Level 2	Level 3	Level 4
Time limits for customers' processes	No time limits for commercial processes	Time limits are defined for major commercial processes, but exceeding them is free of penalties; these time limits are used for computing some quality of service KPI	Time limits are defined for major commercial processes, and exceeding them create warnings; these time limits are used for computing some quality of service KPI	Time limits are set in the Customer's Charter and penalties are due by the company in case of failure to comply

THE CUSTOMER MARKETING

SATISFACTION SURVEYS

Satisfaction surveys are a modern way to "take the temperature" of customers and understand their concerns. This allows to measure, over a longer period, whether the efforts made by the company - for example to improve the service in specific areas - are felt and shared by its customers.

This also allows the company to make a kind of benchmarking with other service providers, whether public or private.

Two parameters are particularly important for these inquiries:

- Their objectivity and the adopted methodology;
- Their continuity over time.

Topic	Level 1	Level 2	Level 3	Level 4
Satisfaction surveys: Methodology, results and frequency	Satisfaction surveys are carried out using the company's own resources (or the company does not carry satisfaction surveys)	The company has developed a stable and reproducible methodology to conduct its satisfaction surveys	Satisfaction surveys are conducted by an external consultant; their results are for internal use only	Satisfaction surveys are conducted by an external consultant; they include a benchmarking with other service providers; surveys are done on a periodic basis (each 6 months or each year if no seasonality) with trend and gap analysis, and their results are used for internal and external communication

SEGMENTATION

Water utilities handle large databases (up to several million customers for larger ones). Of course all customers are not alike, they have different needs, and it is not possible to manage them individually.

Segmentation is a marketing tool that helps offer services tailored to different customer segments that have been identified.

The most common segments, for example, are domestic customers, commercial, industrial, VIP customers, large customers (who contribute significantly to the company's revenues), public administrations (which may have specific payment circuits), low-income areas, etc.

Topic	Level 1	Level 2	Level 3	Level 4
Customer Segmentation	The company does not use segmentation technologies (customers database)	Segmentation of customers database is done according to tariff needs	In addition to tariff categories, the company identifies some important customer categories (such as Large Customers, VIP, etc.) and proposes some tailored services.	Each customer segment is identified in order to design a tailored customer service (customer care, Billing Factory, etc.)

COMMUNICATION

Communication is an essential tool for the training of customers about the value of water and sanitation. It may be through the distribution of thematic leaflets (often enclosed with the bill): saving water, leaks, water quality, importance of sanitation for health and environment, etc.

The company must, at some key moments, deliver its messages to its customers. This may be done during the following occasions:

- The launching of a new project or a network expansion;
- The adoption of new tariffs (even - especially! - when tariff rates are increased), the company must communicate;
- The launching of operations such as a customers' census, a campaign against fraud, or a campaign for searching leakages.

It is also one of the key tools available to the company to develop a sense of loyalty among its customers, a feeling that impacts positively on the collection rate.

Topic	Level 1	Level 2	Level 3	Level 4
Communication Policy	No defined policy for communications with customers	Customer communication tools are developed according to specific needs (mainly leaflets); no dedicated budget for customer communication	An annual customer communication program exist but it does not rely on a marketing approach (no marketing researches on customer communication needs)	The company has set up a media plan to match the best services companies, using different media (leaflets, radio, internet, on-site events): Measurement of the performance of customer communication are done periodically; There is – within the company organization – a structure responsible for customer communication (policies, budgets, etc.).

EDUCATION

Educating the public about environmental protection (namely through the proper use of drinkable water while avoiding waste and complying to the rules and standards of sanitation to save the environment) is an important role to be played by water supply companies as corporate citizens.

Educational programs can be developed - successfully - with different categories of the population (schoolchildren, mothers, etc.).

Topic	Level 1	Level 2	Level 3	Level 4
Educational Programs	No policy for educational programs (some actions may be developed nevertheless)	The company organizes "Open house" days at least once per year, and provides (on request) site visits to local residents	The company has a structured program of site visits for civil society and local authorities, and participates in events of local life to promote the correct use of water and sanitation	The company has a structured program of site visits for civil society and local authorities, and participates in events of local life to promote the correct use of water and sanitation; Educational programs are developed for designated segments of civil society (housewives, schools, etc.)

LOW INCOME AREAS

Low-income populations in some parts of the world are doubly disadvantaged: their low purchasing power may be an insurmountable barrier to access running water through connections, thus leading them to pay one cubic meter of drinking water - possibly contaminated during its transportation to the place of consumption - at a much higher price than the tariff.

A specific policy to facilitate access to drinking water and to regulation of services is often a necessity for these people to give them the vital liquid which water is.

It is worth noting that this phenomenon occurs - with different degrees of course - in all countries; Great Britain has a special policy for people who cannot afford to pay bills for drinking water.

Topic	Level 1	Level 2	Level 3	Level 4
Low income areas	Facilities to get service on a case by case basis; some standpipes	Policy to facilitate obtaining an individual connection (payment facilities, subsidies)	Social tariff for water and sewerage with credit facilities for access to service (connection costs). Policy of standpipes development by using private sector participation	Development of a dedicated services' package allowing access to water and sewerage at an affordable cost by mobilizing civil society ; The people are directly involved in these programs, in their definition (participatory model) and in their implementation (labor supply)

SUBJECTIVE ASSESSMENT

The progress matrix tries to provide a most objective view of the strong and weak points of a company's commercial management.

At the end it is necessary to take into account two variables:

- The value of the commercial organization (benefit/cost ratio)
- The benchmarking with other public utilities

The idea of the "subjective evaluation" is to ask the company professionals their evaluation of the return of the commercial organization (good or bad investment for the company), and also how its commercial management compares with that of other public utilities (in some cases, this latter evaluation can be made by the clients themselves through satisfaction surveys).

The four levels of development used for subjective evaluation are:

- The basic functions of the commercial system are provided, but with a weak company image and/or very high costs
- The basic functions are being provided, the costs are correct, but the quality is significantly lower than that of other public utilities.
- The quality of the commercial system is at a level comparable to the main providers of public services
- The commercial system is a leader in the country's public services.

Topic	Level 1	Level 2	Level 3	Level 4
Value of the commercial organization	The customer service is too expensive and does not provide a good level of service: a full reengineering of this activity is needed	The cost of the customer service is correct, but customer satisfaction is not, and we must invest in new technologies to improve the customer relationship	Customer service works well and generates the right level of customer satisfaction, but it costs are excessive and will require adjustment in the future	The value of the customer service system is excellent (cost of the bill, collection rate, customer satisfaction) and modern technologies are enforced where useful

Topic	Level 1	Level 2	Level 3	Level 4
Global service quality	The basic parameters are provided (billing) but the company's image is very weak (customers' dissatisfaction with the quality of service)	The performance of the customer service system is correct: the basic function are provided (billing, collection, complaints management) but the quality of service is significantly lower than the one provides by leaders in public services	The performance of the customer service of the company is in phase with the one provided by the major players of public services	The performance of the customer service of the company is the best of all public services in the country

THE EVALUATION TOOL

In developing the evaluation tool for customer services at a water utility, we drew on the work done by the IADB regarding the assessment of the level of development of corporate governance in water and sewerage companies.

DESCRIPTION OF THE TOOL

The tool is an Excel program, using macros in Visual basic, and designed to be "freestanding". As such, it includes:

- A user manual
- A matrix of the 4 development levels and functional themes (at each intersection, a sentence describes the situation reached); this matrix is taken up in more detail below;
- The response format (in the basic version of the tool there are 10 response sheets, but it is easy to increase this number) ;
- Synthesis sheets using data resulting from the filled response sheets.

MATRIX OF THE "LEVEL OF DEVELOPMENT/ FUNCTIONAL THEMES"

This matrix is the core part of the tool. The questions that participants must answer are grouped into 6 functional areas:

- The billing process (10 entries)
- Tools of the billing process (6 entries)
- The revenue management (7 entries)
- The Customer Care (8 entries)
- The customer marketing (5 entries)
- The subjective assessment (2 entries)

It is therefore a total set of 152 questions that a participant must answer with one of the four responses permitted:

- We are already doing it (or we do better) - "green" mark
- We plan to do it next year - "yellow" mark
- We don't do it and there is no intention to do it -"red" mark
- It does not apply to us - "white" mark

THE KEY QUESTIONS

All questions have of course their role to play if we were to understand the level of development achieved by the company. However some may be considered as "markers" of this performance.

For the billing process, one marker is line 4 (the time between meter reading and bill distribution): this helps easily evaluate the organizational performance through the first part of the billing cycle.

For the billing process tools, line 5 (integration with the other systems of the company) is an important marker. It is worth recalling that this was a major input on the part of suppliers like SAP to offer solutions which allow the integration of customer management with all other functions of the company (it is true that the cost was very high). A second marker for the tools is of course line 6 (tools used to process meter readings).

For revenue management, the first marker is of course the metering quality (line 3).

For the management of customers' contacts, the main marker is the level of development of the Call Center (line 4); in fact, the operational modalities of the Call Center (opening hours) and the types of applications that can be handled are markers of the development level of the organization in place.

For customer marketing (a relatively new discipline in the world of "water utilities"), two markers are important for they are representative of the importance that the company wants to give to this function. The first is satisfaction surveys (line 1), because it is the starting point for any marketing approach: measuring the satisfaction (or dissatisfaction) of customers. Secondly, line 2 (customer segmentation) is also representative of the place of customer marketing.

WAYS TO IMPLEMENT THE TOOL

Two aspects are discussed in this chapter: how to implement the tool and with whom this intervention must take place.

METHODS OF IMPLEMENTATION

This tool can be used in two main ways:

- As a dialogue support between a professional in customer management and an external expert (consultant or auditor, for example);
- Directly by the company itself to measure the consistency of different approaches to customer management and perceptions on their effectiveness.

Finally, this may allow comparing between companies in terms of the level of development achieved in customer management (e.g. under a regulator or a governing body responsible for monitoring several companies from the sector).

In all cases, it is important to make a thorough briefing to the various users of the tool for understanding the questions and how to answer them, otherwise we would be exposed to a significant dispersion of responses.

ACTION PLAN

Developing an Action Plan should be the logical result of the implementation of the tool in a water utility.

Based on the analysis of "yellow" points (the company is planning to implement them on a short-term basis) and "red" points (the company does not plan to do so), it is possible to build up an action plan to move from the current level to the desired one.

However, in order to move from one level to another, it is usually necessary to think of a reengineering process of the commercial management: developing an action plan is then quite indispensable. This helps mobilize all the required stakeholders and resources, and identify a consistent project - which may have several components – in terms of time and space.

PERSONS INVOLVED

Many individuals may be requested to get involved in such inquiries and not only in the area of customer management. Examples include:

- As part of the customer management functions:
  - Billing Manager
  - Meter Reading Manager
  - Call Center Manager
  - Branch Manager
  - Customer Marketing Manager
- Outside the customer management function :
  - General Management
  - Strategy & Development Head
  - Financial Management
  - Operational Center Head
  - Communication Manager
  - Person in charge of relationships with the Regulator

UPDATING THE TOOL

This tool is not designed to be a static tool. It must therefore evolve, and there are two simple levels of change:

- Change the wording of the questions: this is done directly by amending the wording in the matrix and moving the amendments to the entry forms (updating "comments" zones);

- Adding or deleting rows and/or questions: in the latter case, a minor maintenance at the level of Excel macros is required.

It is recommended to stick to 6 functional themes.

TESTING THE TOOL

To finalize the development of the tool and to confirm the relevance of its use, two full-scale tests were carried out, both in Spanish speaking water supply companies.[3] These were at ANDA (Administración Nacional de Acueductos y Alcantarillados), the El Salvador national water supply company, and at the Empresa Pública Metropolitana de Agua Potable y Saneamiento (EMAAP-Q), en Quito, Ecuador.

THE TEST AT ANDA (EL SALVADOR)

A prototype of the tool (version 0) was developed in October 2009 in two versions (English and Spanish). ANDA agreed to make a full-scale test of its customer management. This test took place in the last week of November 2009.

A specific report of this test was produced ("Misión de Evaluación de la Gestión Comercial de ANDA en el ámbito del desarrollo de una herramienta para la implementación de mejores prácticas en el campo de la gestión comercial de empresas de agua", December 2009).

Regarding the tool itself, it was tested at ANDA in two ways:

- With the assistance of the consultant during an interview
- As standalone, without the intervention of the consultant

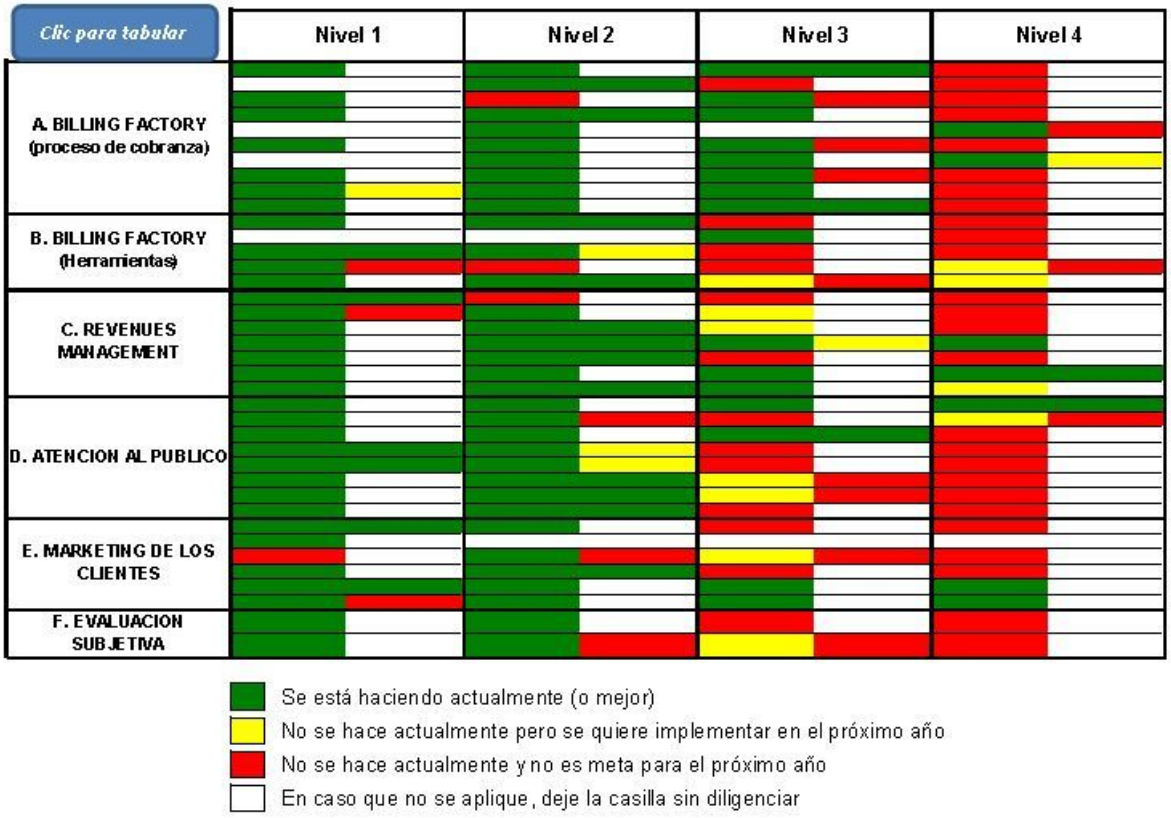
Those who agreed to participate in this test were:

- The Billing Manager
- A Regional Director
- The Deputy Director of Services to Customers.

The main lessons of this test are presented below, with an example shown in the next table:

[3] Testing the tool in an English speaking and Brazilian company is yet to be carried out.

Matrix for the advance of Commercial Practices for water and sewerage operators
Evaluation map and action plan



Note: information completed by Billing Manager

MATRIX OF LEVELS / FUNCTIONAL THEMES

The testers estimated that the levels of development identified were consistent.

The functional questions have been validated. Some changes were made to the matrix after these meetings (merging of partially overlapping questions, adding questions about the database structure). These changes made on the Spanish version have been applied to the English version.

Regarding the understanding of the questions, if it does not pose any particular problem, it is much easier if the user reads the 4 questions on the same line (same subject, different levels of development) before selecting the answers (a, b or c) corresponding to their company.

Some lines offer different answers at each level of development. For the readability of results, it is important to note that the "a" (green code) means either "we are doing it already" or "we do better." Otherwise, the number of boxes left blank will be high, without any meaning (and may complicate the sorting out).

INSTRUCTIONS FOR THE USE OF THE TOOL

The software itself does not pose any difficulty: it is available in Windows Office 2003 (and of course is compatible with Windows Office 2007). To enter the answers in the form assigned to a participant, it is not necessary to enable Excel macros (they must be enabled for the consolidation and analysis of results).

The tool was tested in two ways (with the assistance of the consultant; without assistance).

When used with assistance, the tool has proven particularly powerful for creating dialogue and deepening the themes of the matrix. All the answers give a picture about the company's situation, a shared view among the various participants (in the case of ANDA, there is agreement on the definition of "level 2" of its customer management, and the progress needed).

In the case of use without assistance, there are a much larger number of boxes left blank, the participant seeking instead to identify the closest answer to the situation they perceive regarding ANDA. In addition, some participants are reluctant to answer questions that are outside their sphere of responsibility.

Logically, there are some differences in responses between the two methods.

If someone wishes to implement the autonomous method, he must be careful to make a thorough briefing to the participants on how to respond to the questionnaire in order to contain the scattering and dispersion of answers (other than the one resulting from differences in perception).

THE ACTION PLAN

In the case of ANDA, the action plan became both clear and relevant.

Clear, because the level 2 company wants to evolve in the short/medium term, towards a higher level.

In order to move to a higher level (3 or 4), ANDA must both renew its tools (in particular the CIS) and rethink its procedures (changing tools without rethinking the procedures would not bring all the expected benefits).

The proposed action plan includes two main steps:

- Define the organizational goals and desired quality of service (this should result in a sort of Master Plan for the redesign of the customer management).
- Then prepare the working program that will help achieve these goals, while identifying the resources needed (financial, human and sub-contracting) and corresponding schedules.

The implementation of such an action plan not only mobilizes actors in customers management, but also the company management (the decision-taking requires it) and the staff of other departments who are in contact with the customer management (in particular operations, finance and communication).

It is interesting to mobilize at an early stage these internal third party personnel, and then involve them in the survey, although the risk of "white boxes" is high.

LESSONS LEARNT

The test performed in ANDA helped validate the concept and the detailed questions of the assessment tool.

The test also demonstrated the risks of having dispersed answers depending on the modality of use.

Both methods have their advantages:

- With the assistance of a consultant, it allows a deeper dialogue on various aspects of customer management, and sharing the findings, which form the basis of a plan of action;
- When it is autonomous, it can measure whether the findings are shared, and whether the motivations for moving forward exist on different levels of the company; to be effective, it requires a thorough preparation of the exercise participants.

THE TEST AT EMAAP-Q (QUITO, ECUADOR)

EMAAP-Q, from Quito, Ecuador, accepted to participate in a test of a prototype of the commercial practices' evaluation tool.

This evaluation was carried out in March 2010, with the full support of the company and it was possible to obtain key lessons on the use of the evaluation tool, as well as to allow an evaluation of the commercial management at EMAAP-Q.

Commercial management at EMAAP-Q

EMAAP-Q provides water and sanitation services in the Metropolitan District of Quito (DMQ) that includes the city of Quito itself, 6 suburban towns (parroquias) and 27 rural towns. EMAAP-Q handles 416.000 active customers and 45.000 inactive customers.

Annual revenues amount to some USD 80 millions.

The Commercial Manager, which depends directly from the General Manager, has four departments (Service Management, Household Connections, Customer database and Billing, Portfolio and Debts).

The frequency of billing is monthly, with one reading and one billing each month. EMAAP-Q handles two types of different billings:

- "Immediate" billing (the meter reader issues a bill seconds after he captures the meter reading in a handheld computer), for the customers of the city of Quito.
- A "traditional" bill for rural towns

The customer database is fully linked with the GIS, and handles current client's information, as well as potential ones.

In spite of the heart of the commercial system being an old generation package (AS400), EMAAP-Q has developed very modern solutions around it, like instant billing and the link to the GIS.

The recovery is of high quality, with a collection rate above 98%.

The tool and its progress: key lessons

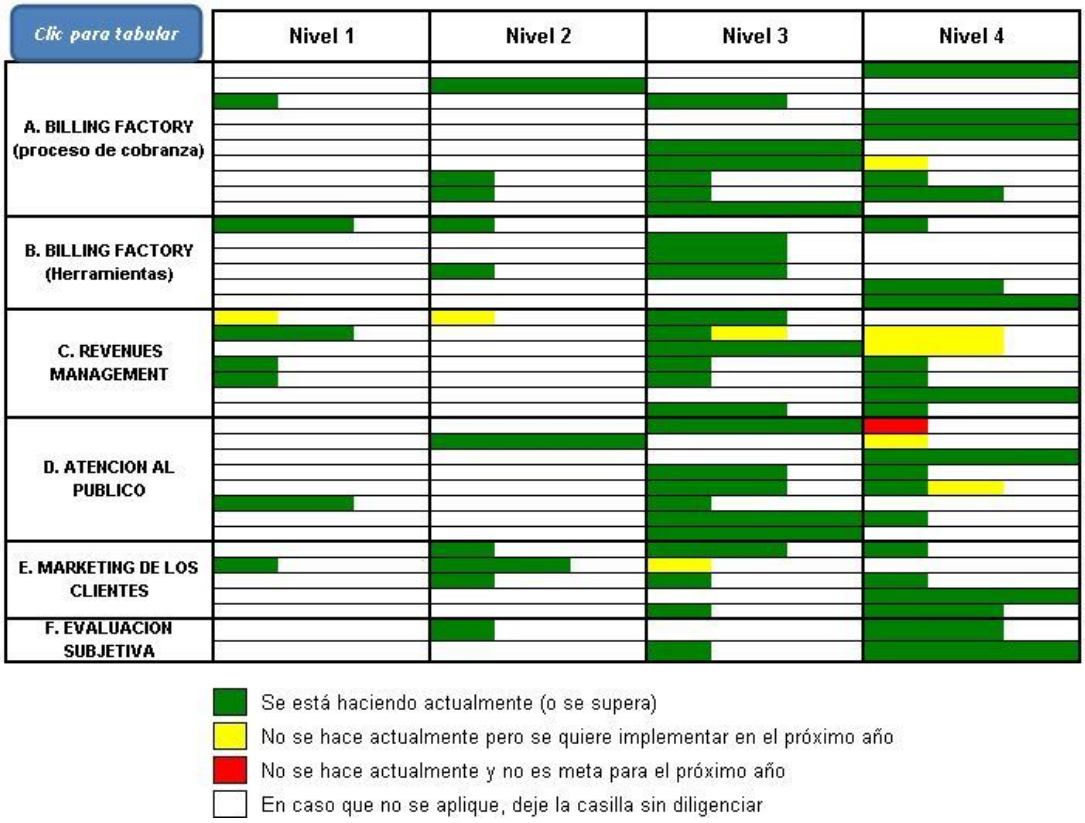
The tool prototype was easy to understand by EMAAP-Q professionals. Its questionnaire is a very powerful tool for dialogue, and allows a review of all the activities related to commercial management in a short period of time (dialog between a company staff and the consultant).

Three tests were made of the commercial management evaluation tool (1.3 version) at EMAAP-Q, in March 2010:

- The first with the responsible for Client Care
- The second with the under manager for Billing
- The third with the under manager for Micro metering

An example of the results matrix is shown below:

Matrix for the advance of Commercial Practices for water and sewerage operators
Evaluation map and action plan



The key lessons of the tools' test were the following:

- The questions seem easy to understand, and none of them was rejected (each makes sense).
- It is easier to answer if all questions from each line are read first, before choosing the answer.
- The questionnaire is a very powerful tool for dialogue, and allows a review of all the activities related to commercial management in a short period of time (dialog between a company staff and the consultant).
- The option "does not apply…" is not so easy to understand, and without the help of a consultant is being overused by the company professionals; in some cases he looks for the answer that best fits and does not answer the other cells in the same line.

- The contradictions between different evaluators need to be investigated (as when one of them answers “green” and the other “red”).

Development of an Action Plan

There are few weak areas in commercial management in EMAAP-Q

The strong points are mainly:

- The organization that manages the client’s portfolio and the tools used (in particular the link between GIS and the customer data base);
- The “immediate” billing process;
- The exceptional collection rate;
- The metrics for the length of customer assistance (maximum times to close complaints);
- The quality of branches for customer assistance, and the work order system.

Points that can be improved include:

- Customer’s use of the Call Center, with a stronger promotion of this means of assistance; this can be a “win-win” operation (with benefits for the company of lower assistance costs) and for the customers (they do not need to go to the branches and wait in line).
- Customer’s marketing, using segmentation to define personalized services by customer type (including services for “large customers”).

It is also possible to investigate the benefits of changing the billing frequency, (from monthly to bimonthly or quarterly).

CONCLUSION

Customer management is now an important activity of water and sewerage companies, both in view of its impact on their finances and on customer satisfaction.

The proposed tool helps perform a review of these activities in a given company, and identify the areas of customer management to be strengthened, as compared to industry standards, and the ambitions of the company concerned.

The tests led at ANDA and EMAAP-Q have validated the principle of the tool and its usefulness.

The highly operational nature of the questions proposed in the evaluation tool, drawing on the choices made by the company, help build a plan of action. However, the development of this plan of action is not automatic, and always requires an analysis of the current situation, which may be restricted to areas emerging with shortcomings from the evaluation.

Finally, this evaluation tool should not be a rigid one, but must follow the technological developments of the profession. It may be easily updated by changing the existing questions or developing new ones, as long as the 6 existing functional themes are maintained.

It is therefore important as a mean to keep the tool alive, to hold feedback sessions when it is implemented in a company.

APPENDIX : MATRIX “LEVEL OF DEVELOPMENT / FUNCTIONAL THEMES”

MATRIX OF LEVELS OF CUSTOMER SERVICE DEVELOPMENT
FOR A WATER & SANITATION COMPANY

See below the lexicon of acronyms

	Level of Development			
Attribute	**1**	**2**	**3**	**4**
A. BILLING FACTORY (the billing process)	1. No meters are used for billing (there may be meters, but not for billing)	1. Metering is used only for billing large customers	1. Metering is the standard for all customers, but there remain a significant number of anomalies (>5%)	1. Metering is the standard, and there is a meter control & maintenance policy aimed at containing anomalies to less than 5%
	2. Billing is annual (one bill per year per connection)	2. Billing is monthly (one bill per month per connection)	2. Billing is bi-monthly or quarterly	2. Frequency of billing is customizable to the customer's request (for example, between 2 and 6 months)
	3. Bill format is simple (amount to pay, due-date), and it is difficult to recalculate the bill with the printed data	3. Bill format is simple, but all the data needed to recalculate the bill are present	3. All data needed to recalculate the bill are present, and the bill is used as a communication media with customers	3. All data needed to recalculate the bill are present, the bill is used as a communication media with customers and it is multi-media (i.e. ability to get the bill via the Internet)
	4. Average time between meter reading and bill distribution to the customer > 5 days	4. Average time between meter reading and bill distribution to the customer < 5 days	4. Average time between meter reading and bill distribution to the customer < 5 days, and discrepancies are investigated	4. Bill distribution at the same time that meter reading (except complex cases or anomalies)
	5. No bill distribution (bill is printed when customer pays)	5. Bills are printed and mailed (outsourcing) but without control of the quality of distribution	5. Bills are printed and distributed by the company employees who are trained to deal with distribution anomalies	5. Bills distribution is outsourced with a permanent monitoring of its quality
	6. Due-date is beyond the billing period (the next bill comes before the due-date)	6. Time to pay is less than a week or more than 3 weeks	6. Time to pay is between 2 and 3 weeks	6. Time to pay is between 2 and 3 weeks, and is customizable according to customer needs (for instance, choice of the day in the month to facilitate customer's cash flow)
	7. Bills are mainly paid in cash through collectors	7. Bills' payments are mainly done in company branches, and use little or no banking tools	7. Customers may pay - in cash or check - in third party networks (supermarkets, drugstores, "pago facil", etc.)	7. The full range of modern means of payment (credit card, ATM, Internet) and third party local networks may be used by customers to pay their bills
	8. Collection rate is monitored on a global basis only, year by year	8. Collection rate is monitored by billing period	8. Collection rate is monitored by billing period, distinguishing between different categories of customers	8. Collection rate is monitored by billing period, distinguishing between different categories of customers, with several measurement points in time (dynamic monitoring)
	9. Error rate in billing is not monitored	9. Complete billing batches had to be redone in the past 2 years	9. Error rate in billing is monitored and under control (<1%)	9. Error rate in billing is monitored and negligible (<0.1%)
	10. Less than 100 000 bills per year	10. From 100 000 to 1 million bills per year	10. From 1 to 10 millions bills per year	10. More than 10 millions bills per year

MATRIX OF LEVELS OF CUSTOMER SERVICE DEVELOPMENT
FOR A WATER & SANITATION COMPANY

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	Level of Development			
Attribute	**1**	**2**	**3**	**4**
B. BILLING FACTORY (tools)	1. One connection = one customer	1. Differentiation of the concepts of "Customer" and "Contract" (a client may have multiple contracts, each contract representing a connection)	1. Differentiation of the concepts of "Customer" and "Contract", and possible consolidation of contracts according to the customer's needs	1. Differentiation of the concepts of "Customer" and "Contract"; possible consolidation of contracts according to the customer's needs; management of individual meters in condominiums with allocation of the consumption gap with the main meter
	2. The Data Model of the CIS is unknown	2. The Data Model is known but does not manage all the cases encountered in the field	2. The Data Model is known and manages the concepts of "Customer", 'Delivery Point", "Metering Point". "Name" and "Address" fields are structured	2. The Data Model is known and manages the concepts of "Customer", 'Delivery Point", "Metering Point"; these concepts are understood and fully used by the water company "Name" and "Address" fields are structured and there is a streets directory
	3. "Name" and "Address" fields are in free text	3. "Name" and "Address" fields are in free text		
	4. IT infrastructure is mainframe, using mainly batch processes	4. IT infrastructure is mainframe with transactional activities and relational databases	3. IT infrastructure uses data servers, application servers and client PCs	3. Web-based ("light client")
	5. No integration of the billing system with the other information systems (light accounting interface)	5. The billing system handles all company billings (including non-periodic) and is interfaced with the accounting system (general & analytical)	4. The billing system handles all company billings (including non-periodic), is interfaced with the accounting system (general & analytical), and is fully interfaced with the customer care tools	4. The CIS is fully integrated with the other IT systems, including accounting system, field operations management
	6. Meter reading tools: index cards per individual meter	6. Meter reading tools: Reading routes managed by the CIS; meter readers uses paper listing (data capture)	5. Meter reading tools: Handheld computers, interfaced with the billing software	5. Meter reading tools Improved handheld computers (GPS, digital photo, etc) and ability to print on site notices and/or water bills

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C. REVENUES MANAGEMENT	1. Collection rate is lower than 80 %	1. Collection rate is > 90% for Large Customers	1. Collection rate is above 90% (monitored by billing period), and above 95% for Large Customers	1. Collection rate is above 98% (monitored by billing period)
	2. Large Customers: no differentiation with other customers	2. Large customers: Statistics and KPI dedicated at monitoring Large Customers	2. Large Customers: Dedicated metering policy (meters type, maintenance, reading frequency)	2. Metering: - Dedicated policies for Large Customers (meter maintenance, meter reading, billing frequency, collection management) - Meter management policy for all meters, including domestic meters (by sampling) - Meter reading errors < 2%
	3. Metering: no meters (or not used for billing)	3. Metering: No meters management policy (meters are replaced when broken) Meter reading errors > 10%	3. Metering: Systematic calibration of large meters (ø> 1 inch) Meter reading errors rate < 10%	
	4. Tackling fraud: Only by chance	4. Tackling fraud: Unsystematic campaigns for detection & regularization	4. Tackling fraud: Corporate policy for detection & regularization with systematic campaigns	3. Tackling fraud: Training program for employees; Corporate policy for detection & regularization with systematic campaigns
	5. Tariff study has not been updated for over 10 years; Rates do not allow the financial balance of the company	5. Rates allow the financial balance of the company but an updated tariff study is required to include future investments needs	5. Rates structure is in phase with the customer segmentation and the investments needs, but the tariff study is more than 5 years old	4. Rates come from a recent tariff study (<5 years) Rates are easily understandable to customers; Allow payment of water sector rates (for basin entity, for example). Help save water
	6. It is almost impossible to get a new connection	6. New connection costs are too high for the majority of newly served people	6. Mechanisms allow the financing of new water connections for almost everyone, but sewerage connection costs are still too expensive	5. Mechanisms allow the financing of new water or sewerage connections, according to customers' financial ability
	7. No process to tackle delinquents (debt recovery)	7. Long time before engaging the debt recovery processes (more than 6 months after the first unpaid bill); Lack of pertinence of many legal procedures	7. The company enforces a debt recovery policy, but with a steadily growing stock of litigation	6. The company has the debt recovery tools needed for a speedy treatment of delinquency, therefore maintaining irrecoverable bills to a very low level (<1% of sales)

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D. CUSTOMER CARE	1. No Call Center, but there is at least one phone number to call the company during business hours	1. A Call Center is open during business hours	1. A Call Center is open during extended business hours, with someone on duty 24 hours for technical emergencies	1. The Call Center is on duty 24/7
	2. The Call Center handles only information queries (it is impossible to manage any commercial process online)	2.The Call Center handles technical complaints and some simple commercial processes	2.The Call Center handles technical complaints and some simple commercial processes; The Call Center handles online payments	2. All customer management processes are handled by the Call Center, and the customer is never obliged to go to a Branch
	3. % of calls answered within pre-defined time-scales < 80% (or not measured)	3. % of calls answered within pre-defined time-scales is between 80% and 90 %	3. % of calls answered within pre-defined time-scales is > 90 %	3. % of calls answered within pre-defined time-scales is > 98 %
	4. Call Center agents training: - general training about call management; - No pre-defined scripts	4. Call Center agents are trained to handle the most frequent queries / complaints (technical & commercial); in case of more complex queries, there is no possibility to upgrade to a specialized agent	4. Call Center agents are trained to handle the most frequent queries / complaints (technical & commercial); There is an online information database to provide the accurate information to all agents; In case of more complex queries, they transfer the call to a specialized / more qualified agent	4. All types of queries / complaints (technical & commercial) are documented and Call Center agents are trained to deal with them; There is an online knowledge database to provide the accurate information to all agents; Appointments are set-up online, including for technical assistance; Data exchange is automatic between the Call Center and the field operations (both ways)
	5. Branches: - Poor presentation; - No flow separation between customers and staff; -High waiting time (>30 ') at some times	5. Branches well organized (flow separation between customers and staff; queue management; etc.) but more branches are needed to get a good quality of service (peak hours) or to avoid the customer a long trip to reach one	5. Branches well located and in sufficient number - Good customers information (processes, activities, KPI,etc); - ATM for auto-assistance	5. Branches which favorably benchmark to leaders in customer service (often private banks branches); - Mobile branches to reach customers where they gather (for instance, markets) or to ensure a periodic presence in remote areas
	6. There is a "subscriber regulation" which is not systematically given to the customer (nevertheless it is binding on him)	6. The Service Regulation is well distributed; it does not set "enforceable rights" at the benefit of customers (in particular, no penalty in case of water company failures)	6. In addition to the Service Regulation, the company decides to guarantee some rights to the customer (selection made by the company, not binding and chosen among those the company may assume with low risk)	6. A "Customer Charter" sets out the rights and duties of the two parties (the customer, the water company); The Customer Charter was approved by the authorities, and there are penalties for breaches
	7. A website is reserved by the company but unused (just a presentation page)	7. A company's website is dedicated to the public and gives basic information about the company, commercial information (branches addresses, opening hours, phone numbers,…) and technical information (water sources, technologies,…)	7. A company's website is dedicated to the public; it gives basic information about the company, commercial information (branches addresses, opening hours, phone numbers,etc) and technical information (water sources, technologies,etc); it allows to do a selection of simple business transactions	7. The website for customers can favorably benchmark with the best ones; it allows to process or initiate all commercial processes (including online payments); it is used to communicate with customers and develop loyalty

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	8. No time limit for commercial processes	8. Time limits are defined for major commercial processes, but exceeding them is free of penalties; These time limits are used for computing some quality of service KPI	8. Time limits are defined for major commercial processes, and exceeding them creates warnings; These time limits are used for computing some quality of service KPI	8. Time limits are set up in the Customer Charter and penalties are due by the company in case of failure to comply
E. CUSTOMER MARKETING	1. Satisfaction surveys are carried out, sometimes using the company's own resources (or the company does not carry satisfaction surveys)	1. The company has developed a stable and reproducible methodology to conduct its satisfaction surveys	1. Satisfaction surveys are conducted by an external consultant; their results are for internal use only	1. Satisfaction surveys are conducted by an external consultant; They include a benchmarking with others service providers; Surveys are done on a periodic basis (each 6 months or each year if no seasonality) with trend and gap analysis, and their results are used for internal and external communication
	2. The company does not use segmentation technologies (customers database)	2. Segmentation of customers database is done according to tariff needs	2. In addition to tariff categories, the company identifies some important customers categories (such as Large Customers, VIP,etc) and proposes some tailored services (customer care)	2. Each customer segment is identified in order to design a tailored customer service (Customer Care, Billing Factory,etc)
	3. No defined policy for communication with customers	3. Customer communication tools are developed according to specific needs (mainly leaflets); No dedicated budget for customer communication	3. An annual customer communication program exists but it does not rely on a marketing approach (no marketing researches on customers communication needs)	3. The company has set up a media plan to match the best services companies, using different media (leaflets, radio, internet, on-site events); Measurements of the performance of customer communication are done periodically; There is - within the company organization - a structure responsible for customers communication (policy, budgets, etc.)
	4. No policy for educational programs (some actions may be developed nevertheless)	4. The company organizes an "open house" at least once a year and provides, on request, site visits to local residents	4. The company has a structured program of site visits for civil society and local authorities, and participates in events of local life to promote the correct use of water and sanitation	4. The company has a structured program of site visits for civil society and local authorities, and participates in events of local life to promote the correct use of water and sanitation; Educational programs are developed for prescribed segments of civil society (housewives, schools,etc.)
	5. Low-Income areas: Facilities to get the service on a case by case basis Some standpipes	5. Low-Income areas: Policy to facilitate obtaining an individual connection (payment facilities, subsidies)	5. Low-Income areas: - Social tariff for water & sewerage with credit facilities for access to services (connection costs) - Policy of standpipes development by using private sector participation	5. Development of a dedicated services' package allowing access to water & sewerage services at an affordable cost by mobilizing civil society; The people are directly involved in these programs, in their definition (participatory model) and in their implementation (labor supply)

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F. SUBJECTIVE ASSESSMENT	1. The customer service is too expensive and does not provide a good level of service: a full reengineering of that activity is needed	1. The cost of the customer service is correct, but customer satisfaction is not there and we must invest in new technologies to improve the customer relationship	1. Customer service system works well and generates the right level of customer satisfaction, but its costs are excessive and will require an adjustment in the future	1. The value of the customer service system is excellent (cost of the bill, collection rate, customer satisfaction) and modern technologies are enforced where useful
	2. The basic parameters are provided (billing) but the company's image is very weak (customers' dissatisfaction with the quality of service)	2. The performance of the customer service system is correct: the basic functions are provided (billing, collection, complaints management) but the quality of service is significantly lower than the one provided by the leaders in public services	2. The performance of the customer service of the company is in phase with the one provided by the major players in public services	2. The performance of the customer service of the company is the best of all public services in the country.

ACRONYMS

ATM	Automatic Teller Machine
CIS:	Customer Information System
KPI	Key Performance Indicator