

# No Evil Lasts More Than 96 Hours

by Ted Schaar

## At a Glance . . .

- Movistar Argentina's No Evil Lasts More Than 96 Hours team targeted reducing defects in the posting of customer payments.
- Six Sigma and quality tools such as brainstorming, gemba interviews, affinity diagrams, 5 whys, 5 hows, and multivoting helped lower the defect rate from 12.4 percent to 5.8 percent.
- The interval needed to post payments was shortened from seven minutes to three seconds, average allocation time was decreased from five days to two days, and rework was reduced by 68 percent.
- The expected annual benefit is \$184,000.

The fact that customer payments posted to the Movistar Argentina accounting system weren't being recorded properly and frequently required rework was one thing. But when the Movistar collections department mistakenly contacted customers *who had paid their bills*, in some cases even disconnecting phone service, complaints started reaching high levels of the company.

"Invoices not closed properly were marked outstanding, and collection actions were started," said Matías Gadda Thompson, improvement and innovation chief. "This was an evil that had to be eradicated."

Movistar launched an improvement project with the target of properly applying all payments against a due amount to produce a paid invoice within 96 hours. The name of the project, No Evil Lasts More Than 96 Hours, was based on a 2,300-year-old quotation by Greek philosopher Epicurus: "Only one principle will give you courage, that is the principle that no evil lasts forever nor indeed for very long."

## About Movistar

Movistar is a Spanish mobile telecommunications company owned by Telefónica Group. It operates in Spain and 13 Latin American countries, including Argentina, where it has 16 million customers.

The Movistar name was coined in 2005 by Telefónica Group after it purchased BellSouth's South American mobile operations.

## Why Quality?

"Failure to close invoices within 96 hours was a headache that affected many employees, slowed down transactions, and generated a lot of customer complaints," Gadda Thompson said.

Movistar sought to improve administrative closure of invoices related to the sale of new mobile phones in 92 commercial offices, which are company-owned retail outlets and back-office areas involving direct sales, payment collections, accounting, and management information systems. Typically housed in freestanding buildings, these offices employ nearly 13 percent of Movistar's workforce and serve 11 percent of Movistar customers, selling mobile phones and resolving complaints.

Retail stores located in shopping malls and operated by independent sales agents were not involved in the improvement effort.

Earlier attempts to solve the problem had failed because they were not cross-department and did not use an improvement methodology. Symptoms had been alleviated, but the root causes persisted.

## More Background

Every Movistar customer has two accounts: services consumption and cash. The services consumption account contains records of basic phone services and options such as texting. The cash account is used to purchase mobile phones and other products.

When payments weren't applied correctly, customers some times were contacted for payment even though they had already paid. Customers who opted for automatic bill payment were mischarged at times. Movistar billing errors even resulted in service cancellations.

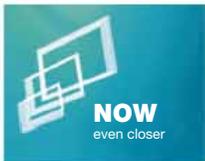
Faulty accounting created rework involving some or all of the following personnel: customer service representatives; debt analysts; retail store supervisors; and members of the accounting, collection, and incident solution teams.

The process also made it difficult to determine if the system had not recorded a payment properly or if a customer actually hadn't paid a bill.

Figure 1—Movistar strategic plan



## FOUR COMPLEMENTARY AXES WITH A CLEAR VISION FOR EVERYONE.

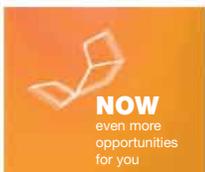


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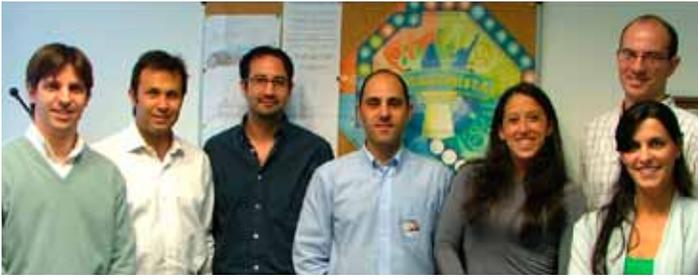


The administration department saw an opportunity to improve the company's cash collection and allocation processes in support of Movistar's strategic plan, which has four axes, as shown in Figure 1: customers, employees, profitability, and social responsibility. An improvement project would increase customer and employee satisfaction as well as corporate profitability.

## Assembling the Team

The quality department, aided by human resources, assembled an improvement team and named Fabio Dolce, billing manager, as champion. "My role was to lead, coach, and remove obstacles," Dolce said. Team members were Gustavo Widmer, IT quality assurance; Silvina Aceto, telesales analyst; Silvina Lopez Gandolfo, administration analyst; Andrés De Aquino, accounting analyst; Hugo Quintana, treasury analyst; and Adrián Malato, administration chief.

To identify potential stakeholders, the team analyzed input and output flows using a suppliers-inputs-process-outputs-customers (SIPOC) diagram. Primary internal stakeholders included the administration department and collections. Other internal



**Team No Evil Lasts More Than 96 Hours**

Pictured from left to right: Andrés De Aquino, Fabio Dolce, Hugo Quintana, Adrián Malato, Silvina Aceto, Gustavo Widmer, and Silvina Lopez Gandolfo.

stakeholders were the incident solution team, sales, and customer service. Customers were external stakeholders.

Movistar's recognition system rewarded team performance, publicizing accomplishments in company publications.

## Defining and Analyzing the Problem

The team defined a defect as an invoice that did not reach administrative closure within 96 hours. The goal was to reduce defects by 50 percent, as well as decrease customer complaints and minimize rework.

Silvina Aceto explained that gemba (Japanese for "the real place") interviews with process users helped the team collect key information to analyze the problem. The team visited retail outlets to observe staff performing tasks and employed the 5 whys to investigate variations.

"We used different tools to identify potential root causes following a general-to-specific pattern," said Andrés De Aquino. A box plot and multi-vari chart revealed differences in performance among retail outlets for each collection method, showing that the best-performing outlets improvised practices outside of standard procedures to avoid problems.

"The worst-performing outlets failed to identify and correct problems, even if in an ad hoc manner," De Aquino said.

## Identifying Root Causes

After a thorough analysis, the team developed a list of causes of payment defects:

- Poor manual collection procedure—The payment collection procedure was not simple or systematic and allowed payments to be mis-posted easily.
- Slow manual posting system—Because the system was slow, some representatives used an alternative method, sometimes resulting in payments being applied to wrong accounts.
- Night posting failures—Nightly automatic batch processes did not always run successfully, and invoices that should have processed were left unpaid.
- Lack of accountability—Debt control reports were not linked to individual representatives, reducing accountability and making it difficult to institute preventive or corrective actions.

- Faulty form—The form used to enter credit card payments did not have some of the fields needed (such as type of operation, credit card due date, type of client, etc.) to post payments properly.
- Improper shortcuts—Lack of training caused customer service representatives to use shortcuts that often proved to be counterproductive rather than use approved procedures.
- ATM payments misapplied—ATM payments were received without validating invoices or customer numbers and were not applied to the correct account.
- Poor reporting—The report that detailed open invoices was issued weekly and didn't reveal errors until invoices remained unpaid for longer than 96 hours.

"Random examples of situations that led to improperly posted payments were reviewed at different retail outlets and subjected to a Pareto analysis," Gustavo Widmer said. "Data were sorted by retail outlet, time, and payment collection method and compared to internal reports."

A hypothesis test indicated factors such as outlet location, length of employment, payment time, collection method, and type of transaction influenced defect rates.

Then the team brainstormed and produced an affinity diagram to group root causes. Dolce added that the team deepened the analysis using a cause and effect diagram and the 5 whys. Finally, multivoting helped prioritize causes.

The team also studied the internal steps various departments employed to close invoices. Complaints about payments customers said they had made on time against invoices that were still listed as unpaid triggered a review of posting, closing, and other steps. The analysis revealed that the causes responsible for most posting defects were ambiguous and poor manual collection procedure, slow manual posting system, nightly posting failures, and lack of accountability.

"Conclusions that we drew from the Pareto chart were verified by comparing data with other sources, including transaction records," Dolce said.

## Developing Solutions

To identify potential solutions, the team used standard Movistar Six Sigma approaches—such as the define, measure, analyze, improve, and control (DMAIC) improvement cycle and the define, measure, analyze, design, and verify (DMADV) design cycle—and tools such as brainstorming and the 5 whys. Aceto said, "We used a cause and effect diagram to organize ideas and actions proposed by stakeholders and displayed the ideas in a detailed process map to understand relationships, benefits, and possible disadvantages."

Conclusions from previous stages and feedback from stakeholders during the 5 whys and brainstorming sessions were analyzed to provide a multidisciplinary view of the problems and solutions. The team also used a solution deployment tree, multivoting, and a solution selection matrix as shown in Figure 2.

“These methods helped us recognize solutions that met project objectives,” Aceto said.

Criteria weighting and scoring during meetings with stakeholders and process experts helped ensure validity of conclusions. Members of the administration department and the incident resolution team played crucial roles in selecting final solutions.

The team decided that cash sale invoice and collection procedures needed major changes. Invoice issuance and payment collection processes would be modified to ensure payments were posted correctly, invoices were closed, and accounts zeroed. Daily reports would detect payment deviations early and help monitor and manage customer service teams. If a deviation appeared, staff would take corrective actions before a process defect occurred.

One solution for correcting process problems promptly was RecoverMe, a software tool that flags and corrects ATM transaction breakdowns caused by terminal printer failures, communications outages, and other errors.

## Implementation

A one-month pilot test at three retail stores validated the solutions. The charts in Figure 3 show that the changes significantly reduced defects and paid-invoice posting times.

Figure 4 details additional benefits the team expected based on the piloted solutions. The pilot test indicated that implementing changes widely might reduce defects by 50 percent. Rework, process variation, and customer complaints were also expected to decrease.

According to De Aquino, the team calculated an expected benefit of \$184,000 for an estimated implementation cost of \$11,000. “The improvements and benefits were validated by stakeholders and used to justify full implementation of the team’s solution,” Aceto said.

Silvina Lopez Gandolfo explained that the team identified a list of implementation actions with input from stakeholders: “We practiced time management to minimize disruptions to regular business services, secured permission for Green Belts to devote time to the improvement project, and developed contingency plans to cope with the unexpected.”

New instruction manuals were developed to communicate changes and train staff. “Some stakeholders helped design the new procedures in meetings organized by Green Belts, including Gustavo Widmer,” said Gandolfo.

**Figure 2—Solution development**

<b>Solution Deployment Tree</b>	Identifies the problem, breaks it into causes, and provides potential solutions.	Makes identification and articulation between the problem, causes, and potential solutions easier.
<b>Multivoting</b>	Reduces a long list of possible solutions or options to a shorter list.	Reduces the list of potential solutions before a matrix analysis.
<b>Solution Selection Matrix</b>	List of options evaluated and prioritized by solution selection criteria.	Highlights solutions that comply with project objectives.

Other stakeholders were involved in staff training to support the changes and to collect relevant feedback to modify details where necessary. Company magazines and the Movistar intranet updated employees on progress and results.

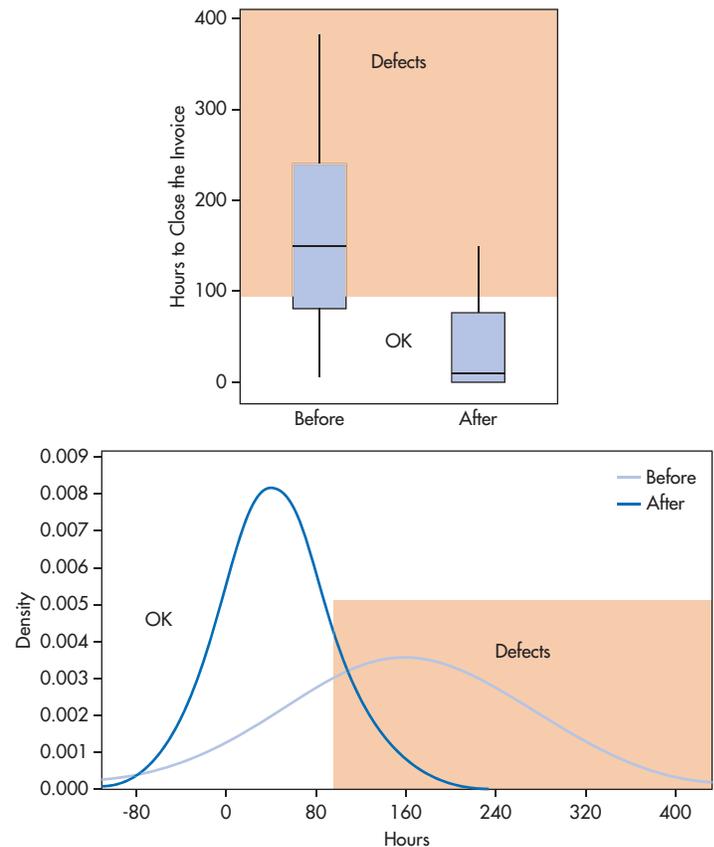
“Where we anticipated resistance we took actions such as informing retail stores of the benefits before implementing changes,” Widmer said.

A scheduling conflict involving IT was a major obstacle. The department had other high priority assignments, but team leader Dolce negotiated a solution to resolve the conflict. Some medium-priority IT work was delayed and the urgency of improvement project requests increased,” Dolce said.

## Sustainable Results for Movistar and Its Customers

The new cash sale invoicing procedure is straightforward and fast, and it achieved a 50-percent reduction in defects. “At the

**Figure 3—Reductions in defects over one-month pilot test**



**Figure 4—Expected benefits based on pilot test**

Tangible Benefit	Initial Value	Expected Value	Estimation Method
Rate of process defects (96 hrs)	13%	6.1%	Pilot tests
Average process variation	5 days	2.1 days	Pilot tests
Number of complaints	720	354	System records
Rework of debt analysts	38%	22%	Pilot tests
Response time manual posting	3 min.	Less than 10 sec.	System performance analysis

start of the project the average monthly defect rate was 12.4 percent. Now it is 5.8 percent,” De Aquino reported.

The number of customers contacted about late payments because of Movistar accounting errors fell 50 percent, decreasing customer complaints by a similar amount.

“Standardization of the process also means the customer experience is about the same in all of our retail outlets,” said De Aquino.

The time needed to post a payment manually was reduced from seven minutes to less than three seconds. The average variation in payment allocation time fell from five days to two days, and rework was reduced by 68 percent.

Invoices truly not paid by customers are detected earlier and addressed sooner, resulting in better payment collection, reducing accounts receivable, and increasing corporate income. Resources previously directed toward rework can be applied to other tasks, increasing employee productivity and further reducing costs.

Responsibility for monitoring and sustaining the improvements was assigned to Gandolfo, the team’s Green Belt. She coordinates tasks such as measuring key indicators, implementing longer-term improvement solutions, monitoring and controlling the process, and providing monthly performance updates to the quality department.

“We also created a control report that allows us to view and measure commercial transactions for all collection methods,” Gandolfo said. “This helps us take corrective or preventive actions to ensure improvements are sustained.”

Additional measures designed to keep the process in control help reinforce existing weekly debt reports. A series of daily, twice-weekly, and monthly control graphs assist in the rapid identification and correction of errors and in the ongoing monitoring of defect levels and trends.

The posting improvement project was a finalist in the 2010 ASQ International Team Excellence Award Process. Two other Telefónica improvement projects also were finalists. One received a gold award.

### *For More Information*

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- Movistar’s website is [www.movistar.com.ar](http://www.movistar.com.ar).
- Learn about the ASQ International Team Excellence Award Process at <http://wcqi.asq.org/team-competition>.
- Gadda Thompson credited Molteni & Associates as a helpful resource on the No Evil Lasts More Than 96 Hours project.

### *About the Author*

**Ted Schaar** is a freelance writer who has written on quality topics ranging from statistical process control to 5S. A graduate of the University of Wisconsin-Madison, he resides in Brookfield, WI.