Overview of case studies: Colombia

Case Study: Gerfor
(March 2011)
**Content**

- **Examples of application of the ISO methodology to SMEs**
  - Manufacturing company in the sector *PVC pipes and accessories*

- **Credits**
  - ICONTEC: Mrs. Martha Lucia Castro, Ms. Alicia Jaramillo
  - Ms. Constanza Dias (Santo Tomas University, Bogota, Master student, Engineering faculty, MSc in Quality and Management)
  - Daniele Gerundino, Strategic Adviser to the ISO Secretary-General

Case study: Gerfor
The company – GERFOR

- The company focuses on the manufacturing of PVC pipes and accessories and is one of the Colombian market leaders.

- The company has a strong manufacturing orientation, operates exclusively through distribution channels (distributors and retailers) and has always been extremely focused on product quality.
Industry value chain

SUPPLIERS

- Resins
- Plastics, PVC
- Consumables

DISTRIBUTION CHANNELS

- PVC pipes and fittings
- Plastic roof tiles
- Faucets/bathroom fittings
- Solvent Cement

- Distributors
- Retailers
- Small retailers

FINAL CUSTOMERS

- Building constructions
- Infrastructure / aqueducts
- Irrigation

---

In scope

Case study: Gerfor
Preliminary analysis of the Standards Impact

- The company has a library of approximately 200 technical standards and regulations, covering products, testing and quality management aspects.

- Based on preliminary analysis (supported by the Standards Impact Map) the business functions most significantly impacted by standards are:
  - Marketing and sales
  - Production

- Interesting information (mostly semi-quantitative and qualitative) has also been collected in relation to:
  - Procurement
  - Engineering

Case study: Gerfor
## The Company Value Chain

<table>
<thead>
<tr>
<th>A</th>
<th>Direction and management</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Direction Planing and improvement Internal Quality Audit - IQA Client service</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>B</th>
<th>I&amp;D / Engineering</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Development of finished product Development of raw materials</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C</th>
<th>Procurement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>National purchases International purchases Dealers</td>
</tr>
</tbody>
</table>

### Pipeline production flow

- Raw materials conformity
  - Mixes
  - Extrusion
  - Injection
  - Recovered
  - Welding
- Product finished conformity
  - Store
  - Management and delivery of finished product
- Marketing
  - Sales
- Technical assistance

### Support activities

- D Logistic (input)
- E Operations
- F Logistic (output)
- G Marketing and sales
- H Services

### Case study: Gerfor
Marketing & Sales (1)

- The primary business is PVC pipes and accessory products - which represent over 75% of the company revenue

- Building construction and Infrastructure (aqueducts, sewage systems, electric pipes, etc.) are the most important market segments covered by the company – representing some 65% of sales

- Conformity to standards and certification against major standards and regulations is considered critical because it:
  - Has been a key element of competitive advantage driving GERFOR’s growth, when GERFOR and another company were the only two certified companies operating in the Colombian market
  - Continues to help building customers’ confidence (although all main market players are now certified and this is no longer a competitive advantage “per se” – it must be complemented by other factors)
Marketing & Sales (2)

- Conformity to voluntary standards is considered a critical factor for an estimated 47% of company’s sales. Here follows the calculation of the EBIT impact.
  - Step 1: 47% of company impacted by standards (in 2010): 33,2 million USD
  - Step 2: The estimated, annual average gross profit is 13.7% – i.e. 14,4 million USD
  - Step 3: the contribution from standards would then be estimated in 47% of 14,4 million USD – i.e. a contribution of 6,7 million USD to the company annual EBIT.
Production

- ISO 9001:2000 has had a significant impact on the re-design of the company processes and continual improvement

- The Production business function (assisted by the quality/conformity business function) monitors strictly several KPIs. The most important concern:
  - Productivity
  - Scrap rates
  - Overweight
  - Energy consumption

Case study: Gerfor
Production (2)

- The most relevant operational improvement determined by the implementation of quality management concerns the reduction of overweight.

- The financial gain (2010 vs. 2009) deriving from the reduction of overweight was estimated as a contribution of 1,3 million USD to the company annual EBIT.
Standards EBIT impact of the selected business functions

<table>
<thead>
<tr>
<th>Business functions</th>
<th>EBIT impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Marketing and sales</td>
<td>6,723,269 USD</td>
</tr>
<tr>
<td>Production</td>
<td>1,328,650 USD</td>
</tr>
<tr>
<td>Total</td>
<td>8,051,919 USD</td>
</tr>
</tbody>
</table>

- This corresponds to **7.7%** of the company turnover (total: 105 million USD)
Semi-quantitative considerations

Engineering

- The design of GERFOR products is almost always based on existing technical standards – it is very difficult to start a project without reference standards.

- An example was given for a new product (“piping for irrigation” product line) developed in 2009 – based on custom specifications

- The project was quite complex and required several adjustments to resolve problems associated with diameter, seals, color and other aspects. It was estimated that completing the project required approx. 10 times the time needed for products based on standard specifications.
Procurement

- The **time spent** for the procurement of consumables (not based on technical standards) represents about **60% of the total** – against about 40% for Raw materials (all based on standards specifications) – even if consumables represent only **5%** of the total cost of goods.

This because much more work is required to:

- writing product specifications
- interacting with suppliers (to clarify requirements)
- testing products

Case study: Gerfor
Thank you for your attention!

http://www.iso.org

Case study: Gerfor