Overview of case studies: Botswana

Case study: Lobatse Clay Works (LCW) (June 2011)
Summary

- Example of the application of the ISO methodology
  - Brick manufacturing company (Industry sector: Construction materials)

- Credits
  - BOBS Project team: Ms. Kopano Bogopa, Project coordinator, Ms. Lindiwe Mbulawa, Project assistant
  - Mr. Michael Mogamisi, Project administrator, student (University of Botswana, faculty: International business)
  - Mr. Reinhard Weissinger, ISO, Manager of Research, Education, and Strategy

Case study: Lobatse Clay Works
The company – 1

- Construction materials company: Bricks

- The company serves the construction industry for public buildings as well as for private homes and was founded in 1992

- Lobatse Clay Works (LCW) is located around 70 km south of Botswana’s capital Gaborone, in the town of Lobatse

- The company produces various types of bricks:
  
a) Clay bricks used in building construction are the main product
  b) Special bricks: Used for window sills and as paving bricks

- Bricks can be produced in different colours and textures (rough or smooth)
The company – 2

- In 2006, the company managed a turn-around after a difficult period when it was close to bankruptcy

- The government of Botswana is the main customer (95% of the sales). The company exports 1% of its products, the remaining 4% are sold to the private sector in Botswana

- In Botswana, LCW has a domestic market share of around 48%

- LCW employes 175 people and produces over 30 million units of bricks annually

- Revenues in the fiscal year 2009/2010 have been 64 million Botswana Pula (around USD 9.73 million)
Industry value chain & segments covered by operations of LCW

SUPPLIERS
- Exploration
- Raw materials
- Mechanical preparation

CUSTOMERS
- Construction industry (government)
- Private sector

Production/Manufacturing
Distribution

- - - - - = In scope

Case study: Lobatse Clay Works
Model of a company value chain (M. Porter)

A company value chain & the business functions « A » to « I » that constitute the Value Chain

Case study: Lobatse Clay Works
Company value chain and selected business function for an assessment of the impacts of standards (highlighted)

For a manufacturing company like LCW, the business function most impacted by standards is production.

It was therefore decided to limit the assessment to this single business function.
Value drivers

- The company is 100%-citizen owned and has support from the government of Botswana
- The main raw material, clay soil, is accessible and mined locally
- The treatment of workers is good: All are insured and have a right to pensions
- The company knows the market well and has around 20 years of experience
- It is able to offer reasonable prices
- It is able to deliver on time

Case study: Lobatse Clay Works
Use of standards

- LCW uses the following standards and specifications:
  - BOS 28 *Burnt clay masonry units*: This standard defines requirements for shape, appearance, texture, colour, dimensions, warpage, strength, efflorescence and soundness of bricks
  - BOS ISO 9001 *Quality Management Systems - Requirements*: Preparations for certification are underway
  - BOS OHSAS 18001 *Occupational Health and Safety Management Systems - Requirements*
  - Other standards and company-internal specifications are used to test for compliance with BOS 28
Company attitude towards standards

- Standards are used to a significant degree and systematically since 2006 (after the company went through a difficult period and managed a turn-around)

- The manufacturing process is closely monitored and quality controlled to ensure products meet the demanding requirements of the standard BOS 28 of the Botswana Bureau of Standards

- LCW was certified to BOS 28 first in 2006 and then again in 2009

- The company is active in standards development and participates in national technical committees on cement, lime and masonry units and occupational health and safety
Impacts of standards on production

- The impacts of standards can be measured on the basis of the following four indicators:
  - **Indicator 1**: Reduction in failure rate of equipment and supplies: 25%
  - **Indicator 2**: Increase in production output: 44%
  - **Indicator 3**: Reduction in product failure rate: 18%
  - **Indicator 4**: Reduction in accident rate: 5%

Note: The figures are based on a comparison with the situation before 2006 when standards were introduced systematically

Case study: Lobatse Clay Works
### Impact of standards on the selected business function

<table>
<thead>
<tr>
<th>Business Function</th>
<th>Operational indicators</th>
<th>EBIT impact (in BWP)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production</td>
<td>Reduction in equipment &amp; supplies failure rate</td>
<td>315 789,47</td>
</tr>
<tr>
<td>Production</td>
<td>Increase in production output</td>
<td>1 152 000,00</td>
</tr>
<tr>
<td>Production</td>
<td>Reduction in product failure rate</td>
<td>216 000,00</td>
</tr>
<tr>
<td>Production</td>
<td>Reduction in accident rate</td>
<td>1 500,00</td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td><strong>BWP 1 685 289,47</strong></td>
</tr>
<tr>
<td><strong>Total:</strong></td>
<td></td>
<td><strong>USD 256 213</strong></td>
</tr>
</tbody>
</table>

- The impacts correspond to **2,63 %** of the company annual sales revenue or turnover and **4,96 %** of the company EBIT
Additional considerations

- LCW has reduced the number of brick types from 13 to 8 which contributed to a stronger focus in production and a better use of equipment.

- Standards contributed to better communication across business functions.

- Training of staff is easier since product specifications are standardized and better documented.

However, the specific impacts of the changes above could not be quantified.
Thank you for your attention!

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