Improving the Haldex Way Tier model

Using the lean philosophy to achieve business excellence

A qualitative study at Haldex AB

Hampus Eckersten
Victor Hörberg

Department of Industrial Management and Logistics,
Faculty of Engineering, Lund University
SE-221 00 Lund, Sweden

This article is an excerpt from a master’s thesis conducted during the summer of 2010 at Haldex in cooperation with Lund Institute of Technology. The thesis was initiated by Haldex in order to get a fresh set of eyes to conduct a full review of their overall management philosophy’s implementation tool and to add support for the introduction of a Business Excellence model.

Background

Increasing cost effectiveness and productivity are key issues for Haldex in order to capitalize on its excellent growth potential. In order to improve these key issues, Haldex Way, the overall management and process improvement framework, has been used since the beginning of the 21st century. The deployment, progression and assessment of Haldex Way is based on a five level Tier model that supports each site’s progression towards business excellence, see Figure 1.

The concern with the Tier model is that its evolution has been inconsistent and the Tier levels have been added gradually. As a consequence no clear structure or main thread between the different levels can be found. This means, for example, that new tools and principles are introduced in the higher levels of the Tier model that have not been touched upon in the lower levels. These issues together with the plans of aligning the Tier model with a Business Excellence model, as such a model will be added shortly as the Platinum level, led to the initiation of this master’s thesis.

Purpose

The purpose of the thesis was to conduct a full review of the existing Haldex Way Tier model, redesign it, and present an improved model. The analysis was to take a holistic view and include the following aspects:

- Structure of the current Tier model
- Functionality for different parts of the business
- Coherence of scope and requirements for the different Tier levels

Figure 1. The Haldex Way Tier model.
The improved model should follow a logic pattern with consistent step lengths between the levels and with support for a Business Excellence model being added as a fifth, Platinum, level.

**Methodology**
Throughout the thesis a Systems approach with a qualitative grip has been used to capture complex interrelations and ensure a holistic perspective. An extensive study of the concepts and ideas behind Lean and Business Excellence has been conducted together with studies of change management and organizational learning to ensure that any changes in the improved model will be accepted throughout the organization. Not to belittle is the comprehensive study of the Haldex Way Tier model that has been conducted through content analysis of internal documents, extensive interviews with employees of various positions at Haldex, and several site visits.

With the all-embracing theoretical studies and gathering of information mentioned above we are confident that the results of the analysis and redesign of the Tier model are trustworthy and useable.

The method of redesign is depicted in Figure 2.

![Figure 2. Method of redesign.](image)

**Analysis and Conclusions**
Identified during the extensive analysis were five major areas of improvement:

- The lack of an overall structure for the categories as well as an internal structure for the criteria
- The lack of functionality for all parts of the business
- The introduction of tools and methods at an inappropriate level and/or in an inappropriate order
- Weak support for standards and consensus definitions
- Lack of support for a Business Excellence model

**Structure**
The current Tier model consists of 33 different categories, covering a range of lean tools and methods for improving an organization. Many of the categories share the same core themes but change name through the different Tier levels due to a lack of consensus definitions during its development. Since there is no evident structure of the categories it is hard to follow a site’s progress through most categories. Also, without a clear structure of the categories, aligning the difficulty of criteria to fit appropriately in each level in the Tier model is very difficult.

Solving this issue, a set of more generic categories has been introduced, reducing the number of categories to 13 and making sure that all criteria covering a certain theme is consolidated into the same category. All categories now stretch from Copper to Gold, see Table 1.

**Table 1. The new structure.**

<table>
<thead>
<tr>
<th>KPIs</th>
<th>Copper</th>
<th>Bronze</th>
<th>Silver</th>
<th>Gold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haldex Way Values</td>
<td>Copper</td>
<td>Bronze</td>
<td>Silver</td>
<td>Gold</td>
</tr>
<tr>
<td>Teamwork</td>
<td>Copper</td>
<td>Bronze</td>
<td>Silver</td>
<td>Gold</td>
</tr>
<tr>
<td>Visualization</td>
<td>Copper</td>
<td>Bronze</td>
<td>Silver</td>
<td>Gold</td>
</tr>
<tr>
<td>Standardization</td>
<td>Copper</td>
<td>Bronze</td>
<td>Silver</td>
<td>Gold</td>
</tr>
<tr>
<td>Taiit &amp; Balanced Flow</td>
<td>Copper</td>
<td>Bronze</td>
<td>Silver</td>
<td>Gold</td>
</tr>
<tr>
<td>Consumption control</td>
<td>Copper</td>
<td>Bronze</td>
<td>Silver</td>
<td>Gold</td>
</tr>
<tr>
<td>5S</td>
<td>Copper</td>
<td>Bronze</td>
<td>Silver</td>
<td>Gold</td>
</tr>
<tr>
<td>TPM</td>
<td>Copper</td>
<td>Bronze</td>
<td>Silver</td>
<td>Gold</td>
</tr>
<tr>
<td>Mapping</td>
<td>Copper</td>
<td>Bronze</td>
<td>Silver</td>
<td>Gold</td>
</tr>
<tr>
<td>Set-up &amp; Change Over</td>
<td>Copper</td>
<td>Bronze</td>
<td>Silver</td>
<td>Gold</td>
</tr>
<tr>
<td>Error-proofing</td>
<td>Copper</td>
<td>Bronze</td>
<td>Silver</td>
<td>Gold</td>
</tr>
<tr>
<td>6 Sigma</td>
<td>Copper</td>
<td>Bronze</td>
<td>Silver</td>
<td>Gold</td>
</tr>
</tbody>
</table>
Another issue that has been analyzed concerns the internal structure of each category, i.e. how the criteria inside each category is structured. Since this internal structure is more or less non-existing, one cannot be certain that all relevant aspects for the implementation of a certain tool or method are covered.

To mitigate this risk, a to Haldex well known structure has been implemented, the GTEMS structure (Method, Implementation, Results), illustrated in Figure 3. This ensures that all categories will have sufficient support in order to be implemented in a good and efficient way. The structure served its main purpose during the analysis and redesign phase of the current Tier model and will hence not be explicitly visualized in the improved Challenge documents.

<table>
<thead>
<tr>
<th>Method</th>
<th>How the category is deployed</th>
<th>(Procedures, Tools, Communication, Visualization)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implementation</td>
<td>To what extent and scope the category is utilized</td>
<td>(Awareness, Education, Leadership, Management, Planning)</td>
</tr>
<tr>
<td>Results</td>
<td>Improved results established from the category</td>
<td>(Audits, KPIs)</td>
</tr>
</tbody>
</table>

Figure 3. The internal structure.

Functionality

The concept of Lean production, the foundation of Haldex Way, has a strong production-oriented focus. Many of the tools and principles have been developed for production processes and hence terminology is often better suitable for the improvement of production processes. But as lean tools and methodologies are applicable for all areas of a business and Haldex Way has the ambition to be an overall management system, there is a need to strengthen the functionality for different parts of the business. In order to add functionality the model needs to be more generic, this has been achieved by the introduction of the new structure of categories. Function / process specific categories such as “Quality” and “Product development” have been split, merged and relocated. In the improved Tier model all categories are now applicable for all areas of the business (the Set-up & Change-over category can be argued). Also, flexibility has been added for criteria considered being too specific, risking to obstruct progression.

Introduction of tools

Another side effect of the gradual development of the Tier model is that some tools are introduced too late, or in a reversed order. As Haldex Way has evolved, the importance of tools and concepts has been realized and hence tools have been added in the Tier model at the level that was currently being developed without updating lower levels. Not introducing tools and principles in an appropriate order, or introducing them too late, risks obstructing the progression of Haldex Way.

To avoid this risk, all categories now stretch over all Tier levels, allowing adequate time to mature within each concept. Copper still is an introductory level, with low focus on results. Further, all tools are introduced to allow sufficient implementation time, e.g. 6 Sigma is in the improved Tier model introduced already in Copper instead of going straight for the high level found in Silver. Tools and methods are introduced in an appropriate order, starting with the use of less complex tools from start, e.g. process mapping is now introduced prior to value stream mapping. Tools that are prerequisites to other are introduced in the correct order, hence OEE is now introduced together with TPM.
Standards
The concept of Lean production is continually evolving and consequently, this is also the case with Haldex Way. Tools and principles have evolved and been refined over the years, concepts have been given clearer definitions and the work with standard documents has come a lot further, unfortunately this progress is not evident in all Tier levels. The need for consensus definitions and standards is important for all Tier levels as this can help bridge communication difficulties, and help defining overall goals of the Haldex Way.

A lot of work has been put into the improved Tier model ensuring the use of consensus definitions in criteria and naming of categories, misinterpretations and ambiguity is thus eliminated. Increased support for Haldex Way standards has been added throughout the Tier levels. With the introduction of appropriate consensus definitions and a better support and referral to standards, the need for clarifications of criteria has also been eliminated.

Support for a Business Excellence model
When comparing the Tier model with the nine criteria of the EFQM model and the seven categories of the MBNQA model, it is evident that much can be improved in the Tier model to add support for the introduction of a Business Excellence model. The first, and presumably the most important step would be to create better support for leadership with the focus on creating clear links from the overall strategy to the implementation of tools. A stronger link to the overall strategy would give a better understanding of why we are doing what we are doing and it would also be in line with the Business Excellence model way of thinking. Another important step is to capture the voice of the customer from an early stage, as a Business Excellence model has strong customer focus, this would also strengthen the “customer first” core value. Finally, a stronger people management is needed, as “people” and “people results” are a major part of the Business Excellence model.

These areas have all been strengthened in the improved Tier model, implementation plans should now be linked to the overall strategy, leadership support is added, supply chain management is strengthened through capturing the voice of the customer and extended use of the Haldex Supplier Handbook and Supply Chain Improvement Program (SCIP). People management has been significantly improved by the introduction of the Haldex Employee Engagement Survey and added visibility of the core values. Most importantly, the more generic structure of categories will be in line with the implementation of a Business Excellence model and the internal structure of criteria is very similar to the structures used in Business Excellence models.

Discussion
We are confident that the three aspects regarding structure, functionality, and coherence of scope and requirements have been thoroughly analyzed. All five areas of improvements have been looked into, resulting in an improved Tier model which is ready to use. The improved Tier model has been verified during a pre-challenge and we are hence confident that it will work satisfactorily. For an overview of the intentions with the improved Tier model, please see the matrix in Table 2.

For thoughts behind layout and scoring of the actual challenge documents, consult presentation material. For a more comprehensive coverage of the thesis, see the full report.
Table 2. Overview of progression in the Tier model.

<table>
<thead>
<tr>
<th>Method</th>
<th>Copper</th>
<th>Bronze</th>
<th>Silver</th>
<th>Gold</th>
<th>Platinum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education of core values and principles are in place.</td>
<td>Tools and principles are introduced and training has commenced.</td>
<td>Employees are trained in the tools and principles of Haldex Way.</td>
<td>Deeper training in all Haldex Way tools is conducted. Specialist training where needed.</td>
<td>The organization excels in Haldex Way tools and principles in the day-to-day business.</td>
<td>BUS I N E S S E X C E L L E N C E</td>
</tr>
<tr>
<td>Implementation</td>
<td>Tools and principles have been tried in pilot areas.</td>
<td>Tools and principles are in use in pilot areas and introduced in more areas.</td>
<td>Tools and principles are in place site-wide and is used daily for improvement activities</td>
<td>Continuous improvement work is conducted as a part of everyday business using the Haldex Way tools and principles.</td>
<td></td>
</tr>
<tr>
<td>Results</td>
<td>Basic understanding of tools and principles exist.</td>
<td>Signs of considerable improvements are seen in pilot areas that has used Haldex Way methodology.</td>
<td>Major improvement results site-wide by using Haldex Way is evident.</td>
<td>Very high performing organization in the Haldex Way (KPIs and methodology).</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Core processes are mapped, defined and understood.</td>
<td>Core processes are stable and measured.</td>
<td>Core processes are managed and improvements are made.</td>
<td>Core processes are optimized and all improvement activities are understood.</td>
<td></td>
</tr>
</tbody>
</table>

Focus on introducing the tools and principles.
Focus on using the tools and principles.
Focus on achieving real improvement results.
Focus on high performance.